RISK DISCLOSURE ON EGG DONOR RECRUITMENT ADVERTISEMENTS: CURRENT PRACTICES & THE EFFECT ON WOMEN'S WILLINGNESS TO BECOME AN EGG DONOR

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Hillary Blythe Alberta-Sherer

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RISK DISCLOSURE ON EGG DONOR RECRUITMENT ADVERTISEMENTS: CURRENT PRACTICES & THE EFFECT ON WOMEN'S WILLINGNESS TO BECOME AN EGG DONOR

Approved By:

Dr. Aaron Levine, Advisor
School of Public Policy
Georgia Institute of Technology

Dr. Roberta Berry, Advisor
School of Public Policy
Georgia Institute of Technology

Dr. Richard Barke
School of Public Policy
Georgia Institute of Technology

Dr. Justin Biddle
School of Public Policy
Georgia Institute of Technology

Dr. Michelle McGowan
School of Women's, Gender, and Sexuality Studies
University of Cincinnati

Date Approved: October 30, 2016

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LIST OF ABBREVIATIONS

ART Assisted Reproductive Technology

ASRM American Society for Reproductive Medicine

CDC Centers for Disease Control and Prevention

DHHS Department of Health and Human Services

DTCA Direct-to-Consumer Advertisements

FDA U.S. Food and Drug Association

FTC Federal Trade Commission

IOM Institute of Medicine

IRB Institutional Review Board

IVF In Vitro Fertilization

MSA Metropolitan Statistical Area

NABER National Advisory Board on Ethics in Reproduction

NSFG National Survey of Family Growth

OC Outside of California

OHSS Ovarian Hyperstimulation Syndrome

SART Society for Assisted Reproductive Technology

WHO World Health Organization

SUMMARY

Egg donation has proven to be a valuable tool in addressing the health issues with infertility. Given the importance of egg donation, it is essential that the procedures related to recruitment, treatment, and compensation of egg donors continue to monitored and evaluated. This dissertation considers the question of risk disclosure at the earliest stage of the egg donor recruitment process: in recruitment advertisements. My research examines whether the recruitment advertisements are the appropriate time in the recruitment process to disclose possible risks of egg donation. Specifically, what, if any, risk disclosures should be included in the recruitment advertisements to ensure that the potential donor understands and considers the risks at the time she decides whether to proceed.

There are two parts to my analysis that aim to address this question. The first part assesses risk disclosure rates in egg donor recruitment advertisements collected online. The results show that risk disclosure in egg donor advertisements is rare. The risk disclosure rates are compared between entities subject to the ASRM self-regulatory guidelines and those that are not (i.e. clinics vs. agencies) and between advertisements placed inside of California (i.e. subject to the California state law) and those placed outside of California (i.e. not subject to the California state law). The results suggest that neither the current ASRM self-regulations nor the formal regulations implemented in California were successful in addressing the low risk disclosure rates.

The second part of the analysis is a survey administered to current or recent female graduate students attending one of three Georgia universities to provide insight on the effects of disclosing various levels of risk at the earliest stage of the recruitment process. The survey results show that the inclusion of risk at the advertisement level can have a significant

association with a woman's willingness to engage in the donation process. The survey also provided a means of examining how compensation influences the donor's evaluation of associated risks listed on an advertisement and the interaction between compensation and risk disclosure. The hypothetical response analysis, in particular shows how potential egg donors are *at risk* of being unduly influenced when they are financially vulnerable.

The results from my research have policy implications in several areas related to the recruitment, treatment and compensation of egg donors. The results are discussed in relation to the ethical and policy issues of egg donation and provide insight into how the discussions or the development of oversight can protect the needs of patients struggling with infertility and the safety and autonomy of egg donors.

CHAPTER 1: INTRODUCTION

Assisted Reproductive Technology (ART) and Infertility

Assisted reproductive technology (ART) has provided effective treatment options for patients that struggle with infertility in the United States and around the developed world (CDC, 2015). In 2009, the World Health Organization (WHO) recognized the increasing health issues regarding infertility by noting "infertility is a *disease* of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse" (Zegers-Hochschild, et al., 2009). This was supported by the most recent data on infertility in the United States from the 2006-2010 National Survey of Family Growth (NSFG). The report showed that of the approximately 61 million women of reproductive age (i.e. women aged 15-44) from 2006-2010, 11% (6.71 million) suffered from impaired fecundity, or the impaired ability to have children (Chandra et al., 2013). This has increased from 8.4% in 1982 (Chandra et al., 2013). Age has been found to be significantly associated with impaired fecundity, with women aged 40-44 showing the highest rate (30%) (Chandra et al., 2013).

The introduction and advancements of ARTs have been a successful solution for women both young and old who struggle with infertility (CDC, 2015). ARTs, as defined by the Centers for Disease, Control and Prevention (CDC), include all fertility treatments performed outside of the body that involve both the egg and the sperm (CDC, 1998). The procedures involve surgically removing eggs from the woman, combining them with sperm in a laboratory and then returning the resulting embryo(s) to the woman's body (CDC, 1998). With these fertility treatments, the sperm, the egg, or both can be obtained

from the intended parents or from a donor. ART techniques were first used in the U.S. in 1981, and the most recent data from 2013 shows that close to 68,000 infants were born as a result of ART cycles performed (CDC, 2015). It is estimated that approximately 1.5% of all infants born each year in the U.S. are conceived through the use of ARTs (CDC, 2013).

The Egg Donation Process and the Current Utilization of Egg Donation

The Egg Donation Process

In vitro fertilization (IVF) using donated eggs is an ART that has proven to be a valuable tool in addressing some forms of infertility. The egg donation process starts with the recruitment of potential egg donors. Recruitment advertisements placed by egg donor agencies and IVF clinics can be found in college newspapers and online classifieds, seen on billboards, and heard on local radio stations. Women interested in learning more about the donation process can often attend an information session hosted by the advertising egg donor agency or IVF clinic. If interested in pursuing, women are typically asked to complete an extensive pre-screening questionnaire that asks about the woman's personal medical history, family medical history, ethnicity, physical features, education, personality characteristics, and personal interests and talents. If approved to continue with the screening process, the potential donor is then asked to complete a comprehensive medical and psychological exam.

With the introduction of egg freezing technology, women can now be accepted as a donor without being matched with an intended recipient(s). If accepted as a donor, the process requires the egg donor to take three different hormone drugs, one at each step of

the donation process. The first hormone injection is gonadotropin-releasing hormone agonist, which is administered daily for one to two weeks. This suppresses the release of the hormones involved in egg maturation and allows the physician to gain control over the timing of egg maturation in the donor. Once completed, gonadotropins, such as follicle stimulating hormone, are then injected into the egg donor on a daily basis in order to stimulate the development of multiple egg follicles. The final stage of the process requires the injection of a third hormone to trigger the final maturation of the eggs. Approximately 36 hours later, the eggs are surgically removed with a needle while the egg donor is under conscious sedation.

Current Utilization of Egg Donation

IVF using donated eggs was first used in 1984 to help a woman experiencing primary ovarian failure (Lutjen et al., 1984). Today egg donation is still used as a treatment option for ovarian insufficiency or failure and as a treatment for age-related decline in a woman's reproductive potential (Kawwass et al., 2013). In 2013, approximately 50% of transfers using donated eggs resulted in live births for women of almost all ages (CDC, 2013). The percentage of live births that resulted from the transfer of non-donor eggs was found to decrease as women got older, falling below 50% for women aged 32 years and older (CDC, 2013). Therefore, the value of egg donation is seen through the higher pregnancy and lower miscarriage rates among recipients using donated eggs, particularly among older women struggling with ovarian insufficiency (CDC, 2013).

The CDC notes that among the 467 fertility clinics in the U.S. that reported to the CDC in 2013, 92% offered egg donation to patients, resulting in the use of donor eggs or

embryos in approximately 13.9% of ART cycles performed in 2013 (CDC, 2015). This has increased from 8% of ART cycles using donated eggs or embryos in 1996, the first year such data were collected (CDC, 1998). Between 2000 and 2010, the annual number of donor egg cycles significantly increased from 10,801 to 18,306, while the mean donor and recipient ages remained stable at 28 years and 41 years, respectively (Kawwass et al., 2013).

Egg Donation Policies in the U.S.

The increased use of egg donation in the U.S. has prompted discussion regarding a range of ethical and policy concerns with the process and how best to ensure the safety of egg donors (Durrell, 2011; Bercovici, 2008; Sauer & Kavic, 2006). These concerns, all of which will be discussed in further detail in the literature review, include: physical and psychological risks; the policies protecting a donor's autonomy, including the subsequent concerns with policies addressing risk disclosure on advertisements and policies mitigating potential risks of undue influence of egg donors; and the potential commodification of eggs. This dissertation addresses these ethical and policy concerns related specifically to the recruitment of potential egg donors.

Egg donors typically receive compensation for their donation and this payment raises concern for the perceived commodification of eggs and the potential exploitation of the donor (Almeling, 2009; Rao, 2006; Sauer & Kavic, 2006; Steinbock, 2004). In particular, there is concern that when the compensation is excessively high there is the potential for women to be manipulated into making a rash decision to participate as a donor without giving adequate consideration to the associated risks of the donation process (Steinbock, 2004). These concerns relate to the broader ethical and policy issues

of how the potential egg donor makes her decision to donate with regard to the known and unknown physical and psychological risks of egg donation. It is important that the egg donor is given the opportunity to both understand and consider the benefits and risks of the donation process before she decides whether to proceed as a donor.

There is little policy in the U.S. that directly addresses the practice of egg donation, and more specifically, the rights of the egg donor. There is currently no federal law that specifically addresses egg donor recruitment, including egg donor recruitment advertisements. In the absence of federal regulation, there are self-regulatory guidelines that have been developed by two professional organizations: American Society for Reproductive Medicine (ASRM) and the Society for Assisted Reproductive Technology (SART). These guidelines have no formal regulatory power but suggest that all advertisements that list a financial benefit also list the risks and burdens associated with donation (ASRM, 2007). The only state regulation specific to egg donor advertisements was passed in California in 2009 (AB 1317). The California law (Cal. Health & Saf Code § 125325) requires advertisements that offer financial compensation for egg donation to also include the associated risks. Alternatively, the advertising company can register as an ASRM member and certify compliance with the ASRM guidelines. Thus, all advertisements placed in California that list a benefit must include the risk disclosure clause provided in the California law or a risk disclosure clause that fulfills the current ASRM guideline. Additional state policies implemented apply to other aspects of the recruitment process.

Significance of Research

This unique study considers the question of risk disclosure at the earliest stage of the egg donor recruitment process: in recruitment advertisements. My research examines whether the recruitment advertisements are the appropriate time in the recruitment process to disclose possible risks of egg donation. Specifically, what, if any, risk disclosures should be included in the recruitment advertisements to ensure that the potential donor understands and considers the risks at the time she decides whether to proceed. To address this question, the study assesses risk disclosure rates in egg donor recruitment advertisements collected online. The risk disclosure rates are compared between entities subject to the ASRM self-regulatory guidelines and those that are not (i.e. clinics vs. agencies) and between advertisements placed inside of California (i.e. subject to the California state law) and those placed outside of California (i.e. not subject to the California state law). In addition, a survey is administered to current or recent female graduate students attending one of three Georgia universities to provide insight on the effects of disclosing various levels of risk at the earliest stage of the recruitment process. The survey aims to evaluate the impact that the risk disclosure on an advertisement has on how potential egg donors consider and understand the risks of the egg donation process. The survey also provides a means of examining how compensation influences the donor's evaluation of associated risks listed on an advertisement and the interaction between compensation and risk disclosure.

The results from my research have policy implications in several areas, to include: the practice of disclosing risks on advertisements at the earliest stage of the recruitment process; the influence that disclosing risks early on in recruitment has on a potential

donor's willingness to engage in the donation process; the language and format of risk disclosures on recruitment advertisements; and the potential for egg donors to be unduly influenced by monetary compensation listed on recruitment advertisements. The results from my research are discussed in relation to these ethical and policy issues and provide insight into how the discussions or the development of oversight can protect the needs of patients struggling with infertility and the safety and autonomy of egg donors.

Outline of Dissertation

There are nine chapters in this dissertation. Chapter 2 provides a discussion on the literature focused on egg donors and the donation process, to include the following topics: the ethical concerns associated with egg donation, disclosure of information to potential donors, and the current regulatory landscape as it relates to egg donation. Chapter 3 outlines the research questions and hypotheses of the dissertation. Chapter 4 is a description of the research methods used for the content analysis of online advertisements and Chapter 5 is the analysis of those results. Chapter 6 provides an overview of the research methods employed to create and administer the survey of female graduate students. The survey included hypothetical scenarios and therefore the analysis is separated into an initial response analysis and a hypothetical response analysis. These results are discussed separately in Chapters 7 and 8, respectively. Section 9 is a discussion of the policy implications of this dissertation work and how the results can contribute to the discussion or the development of oversight in areas related to egg donation.

CHAPTER 2: LITERATURE REVIEW

Ethical Concerns Associated with Egg Donation

The increased use of egg donation highlights the need to explore and discuss the ethical concerns associated with the donation process. These ethical concerns are anchored in the concept of autonomy and protecting the donor's right to make an informed decision of whether to become an egg donor or not. Beauchamp and Childress (1979) define autonomy as "a form of personal liberty of action where the individual determines his or her own course of action". Autonomy is of primary concern here because of the known and unknown physical and psychological risks associated with egg donation, which could result in the donor's autonomy being significantly constrained without adequate or full disclosure of the risks. This section begins with a review of these physical and psychological risks, followed by a discussion on the disclosure of information to potential donors and the importance this has with regard to the donor's autonomy. Additional ethical concerns, such as the commodification of eggs, are also discussed.

Physical Risks

There is more information on the short-term physical risks associated with egg donation than the long-term risks. ASRM, the Institute of Medicine (IOM) and other infertility specialists have noted bleeding, infection and ovarian hyperstimulation syndrome (OHSS) as potential acute adverse events caused by the stimulation of egg maturation during the donation process (ASRM, 2014; IOM, 2007; Bodri et al., 2008;

Jayaprakasan et al., 2007, Bennett et al., 1993; Ludwig et al., 2006). ASRM reports that there is an approximate 1%-2% chance per retrieval cycle of OHSS occurring, while Jayaprakasan (2007) found that the risk of OHSS increased from <0.1% to <15% for egg donors that produced 20 or more egg follicles during a single donation cycle (ASRM, 2014; Jayaprakasan, 2007). Long term risks include the potential impact on the donor's future fertility (Kramer et al., 2009; ASRM, 2014) and the potential link between fertility medications and various forms of cancer to include: uterine, colon, breast, ovarian and endometrial cancers (Althuis et al., 2005; ASRM, 2014; IOM, 2007; Althuis et al., 2005; Schneider, 2008; Ahuja and Simmons, 1998; Stewart et al., 2012). Short-term studies of the physical risks outlined above have found that it is not common for donors to experience such risks (Venn et al., 1995; Brinton et al., 2012; Bodri, 2013; Stoop et al., 2012). However, there is a dearth of egg donor studies, specifically with respect to the long-term risks associated with egg donation, making it difficult to accurately discuss the likelihood that any of these physical risks will occur in a donor (Bodri et al., 2008; Althius et al., 2005; Jayaprakasan et al., 2007). Without the long-term risks of egg donation being fully understood by specialists or the donor, there is concern that potential donors are unable to make truly informed decisions when deciding whether to participate (Woodriff et al., 2014).

Psychological Risks

In addition to the physical risks, ASRM acknowledges in their professional guidelines the potential psychological risks to the egg donor (ASRM, 2007). ASRM notes that potential egg donors could benefit from psychological counseling during the

decision-making process and recommend that such counseling be provided by a qualified mental health professional (ASRM, 2007). The IOM categorizes the potential psychological risks associated with egg donation into three categories: the psychological aspects of the donor screening process, the risks associated with the procedure itself, and a post-donation psychological adjustment (IOM, 2007). The potential risk associated with the pre-screening process is uncovering a previously undetected or undiagnosed psychological problem with the potential egg donor (IOM, 2007). The donation process itself introduces more substantial psychological risks, as the egg donor could experience mood swings and irritability with the use of the required hormone injections and could experience increased anxiety on the day of the retrieval (IOM, 2007). The primary psychological risk associated with the post-donation adjustment is centered on issues of the egg donor's future fertility, concern about the outcome of her donation, and potential regret about her donation (IOM, 2007).

Kenney and McGowan (2008) performed one of the few studies that have evaluated the psychological risks actually experienced by egg donors. They found that the egg donors' awareness of the psychological risks before they donated reflected more challenging outcomes than the women actually experienced (Kenney and McGowan, 2008). While a majority of the donors surveyed reported post-donation satisfaction, 20% (n=16) reported lasting psychological effects after their donation and attributed this to the concern about the outcome of their donation and any resulting offspring (Kenney and McGowan, 2008).

Coercion and Undue Inducement

The potential physical and psychological risks of egg donation relate to the ethical issues of coercion and undue inducement. The Belmont Report of 1979 differentiates between coercion and undue influence by the methods used to obtain compliance from individuals participating in human subject research. It defines coercion as intentionally using an "overt threat of harm" to obtain compliance and undue influence is defined as using "an offer of excessive, unwanted, inappropriate or improper reward or other overture" to gain compliance (Belmont Report, 1979). Grant and Sugarman (2004) note that individuals are offered desirable goods and simple inducements everyday with the intent of changing an individual's behavior. These inducements become *undue inducements* when the offer is excessive and leads to poor judgment, making the individual engage in an activity that could potentially cause unreasonable and serious harm to the individual (Emanuel et al., 2005). Additionally, Baylis & McLeod (2007) argue that it is difficult to avoid undue inducement, given that a single rate of compensation can have different effects on individuals of various economic statuses. It is therefore a challenge to define when an offer is excessive and constitutes as an undue inducement or influence. One central factor in defining undue inducements recognized by Emanuel (2004) is the interaction between risks of serious harm and the offered incentive.

These principles identified by the Belmont Report are guidelines focused specifically on responsible research using human subjects. In addition to these principles, Beauchamp and Childress first introduced *Principles of Biomedical Ethics* in 1979, now in its seventh edition (2013), and defined four clinical ethics principles still employed

today. The four principles include: respect for autonomy, nonmaleficence, beneficence, and justice (Beauchamp & Childress, 2013). The principle of respect for autonomy assumes that rational individuals are able to make informed decisions and act intentionally without being influenced in a manner that would restrict them from making a voluntary decision (Beauchamp & Childress, 2013). This relates to the concepts of coercion and undue inducement, as it supports the idea that individuals should not be offered excessive offerings that could become controlling influences and prevent the individual from making a voluntary decision. The principle of nonmaleficence requires that individuals not intentionally harm another and the principle of beneficence refers to providing a benefit to an individual and also preventing or removing any harm from the individual (Beauchamp & Childress, 2013). Following the principles of nonmaleficence and beneficence requires that an individual not engage in an intentionally harmful act, such as coercion.

There is difficulty in differentiating between coercion and undue inducement when applied to specific research and participant compensation. This is seen in the difficulty that Institutional Review Boards (IRBs) have in defining the two concerns (Wertheimer, 2008; Largent et al., 2012a; Largent et al., 2012b; Klitzman, 2013). Largent et al (2012a) conducted the first national survey of IRB members and found that IRBs varied widely in their classification of payment to participants, as respondents consistently indicated that it could constitute as coercion or undue inducement (Largent et al., 2012b). Klitzman (2013) found similar results among IRBs and noted the inconsistent standards between single IRBs that relied on "gut feelings" when characterizing participant compensation.

This highlights the tension between the researchers' use of compensation as an incentive to participants and the aim of the IRB to protect participants. Klitzman (2013) found that IRBs struggled with characterizing participant compensation as coercion or undue influence because they struggled with whether participants should receive payment or should volunteer (i.e. compensation vs. altruism). As noted previously, the concern with compensation is that it could unduly influence participants' decisions and result in disregard to the potential risks of participating (Roberts, 2002). For example, Casarett et al. (2002) found that when potential research subjects were presented with a $500 payment for participating, a large majority of respondents believed the monetary payment would impair the ability of others to carefully consider the risks and benefits but only 20% believed the payment would impair their own judgment. Similarly, some have argued that compensation should not be provided to women who donate their eggs for research purposes, grounded in the concern that any compensation would lead some women to overlook the potential risks of donation (Dickenson & Idiakez, 2008; George, 2008).

There are also arguments in support of payment to research subjects based on the concept of compensation being an offer rather than a threat (Wertheimer, 2008; Largent, 2012). By defining compensation as an offer to participants, it becomes a benefit and can arguably no longer constitute as coercion. Related to this argument, Brody (1998) claims that if the IRB determines the risk:benefit ratio of a study is acceptable, than large payments offered to participants should not be viewed as a harm to potential subjects. In addition to not being viewed as a threat, some claim that financial compensation should not be perceived as a contributing factor in a potential participants' decision-making

process (Appelbaum, 2009; Bentley & Thacker, 2004). Bentley and Thacker (2004) found that although monetary payment had a positive effect on a participant's willingness to participate in research, an advertisement listing a higher monetary compensation did not result in participants showing disregard to the risks of the study.

Concerns regarding egg donor compensation specifically are highlighted in a lawsuit filed by an egg donor (*Kamakahi v American Society for Reproductive Medicine, 2011*) against ASRM, SART, and all SART-member IVF clinics and egg donor agencies that agree to follow the ASRM guidelines. The egg donor claimed the ASRM guidelines on compensation unfairly burdened potential donors by fixing the prices that they could receive for donating their eggs (Krawiec, 2014). The lawsuit argued that ASRM did not provide sufficient justification or explanation as to why the limit on compensation to egg donors constituted reasonable compensation (Krawiec, 2014). A recent settlement has been reached in the case, with a final hearing set for late August 2016. The settlement agreement requires ASRM to remove its compensation guidelines, which recommend compensation not to exceed $5,000 without justification, and compensation above $10,000 is inappropriate.

Disclosure of Information

From the discussion on undue influence, we can see how broader ethical issues about the decision-making process factor into how compensation may or may not influence the decisions of potential participants. Essential to the decision-making process is the disclosure of both known and unknown risks. If only a high compensation is provided to potential participants without the disclosure of risks, the payment could

become an extreme form of influence that prevents a participant from making an autonomous decision (Faden and Beauchamp, 1986). However, Kenney and McGowan (2014) argue that without more long-term monitoring of how egg donation affects the donor physically and psychologically, it is difficult to determine a reasonable compensation for egg donors.

The disclosure of information is most often related to the informed consent provided to and signed by the participant before they decide to proceed with the procedure. Informed consent is considered to be a primary component in the ethical conduct of research and is grounded in the provision of adequate information, the competency of the decision-maker and a voluntary decision process (Berg, 2001). Under Title 45 Public Welfare CFR 46 (§46.116), the U.S. Department of Health and Human Services (DHHS) provides a list of general requirements for the informed consent. Specific to risk disclosure, the DHSS requires that the potential risks or discomforts to the participant be described, along with an explanation of any compensation offered when these are more than minimal risks (DHHS, 2005).

With informed consent being the typical method for disclosing information to patients, questions arise regarding the relationship between recruitment advertisements and informed consent. One opinion is that advertisements should be considered as an extension of informed consent and should therefore provide full disclosure. The U.S. Food and Drug Association (FDA) view recruitment advertisements for participants as the start of the informed consent process and the initial steps in the selection of participants (FDA, 2006). Miller and Shorr (1999) use this recognition to argue that advertisements that list any benefits of participation should also include any risks and/or

burdens associated with participation. Without the inclusion of the risks and burdens on the advertisement when benefits are presented, Miller and Shorr note the potential for subjects to develop inaccurate perceptions based solely on the benefits.

Related to this discussion of advertisements presenting the benefits and risks of a procedure consistently is the importance of the language used in risk disclosures and the perception of described risks. This issue is more commonly discussed with regard to Direct-to-Consumer Advertisements (DTCA) for prescription medicine that are regulated by the FDA and required to keep a "fair balance" between the amounts of benefits and risks presented in the promotional message (Aikin et al, 2011). However, Lexchin and Mintzes (2002) have found the benefit information in print DTCA to be more prominent than the risk-related information and other studies have found the risk language to be too technical and complex for the general public to understand (Kaphingst and DeJong, 2004). Such practices could attenuate the accessibility of risk information and mislead consumers or participants as they make health-related decisions based on potential misperceptions of the risk information (Mackert, 2011).

The perception of health risks has been closely linked to the message tactics used to disclose the information on advertisements. Davis (2000) examined the relationship between the completeness of risks disclosures in DTCA and the consumer response to the advertised drug. The results showed consumers rated drug advertisements with incomplete risk information more positively than those advertisements with complete risk disclosures (Davis, 2000). Similarly, Aikin et al (2011) found that the format in which the risk disclosures were presented in advertisements influenced the consumer's understanding of the risks. The perception of risks is also dependent on an individual's

motivation and ability to process information, which varies across individuals and demographic sectors (Cacioppo and Petty, 1984). For example, Douglas and Wildavsky (1982) noted the cultural aspects of risk and how shared values and beliefs can affect how different social groups perceive risks.

Related to egg donor recruitment advertisements, Hobbs (2007) evaluated the use of metaphors in 36 egg donor recruitment advertisements found in the student newspaper of the University of California, Los Angeles from Fall 2000 to Spring 2001. Metaphors of love were used most frequently, as they were found on 34 of the advertisements and Hobbs argued that this was in an attempt to focus less on the transactional nature of the donation process and instead focus on the ideas of love and commitment that are the traditional stereotypes associated with parenthood (Hobbs, 2007). Similarly, Gezinski et al. (2012) examined 19 egg donor agency websites and found that a majority of them described the egg donation process using emotional language (i.e. "the gift of life") and imagery rather than medical terminology or descriptions. A larger study from Keehn et al. (2015) evaluated 46 egg donor agency websites and also found a majority (approximately 72%) included benefits of emotional fulfillment, to include phrases, such as: "feel tremendous gratification", "life enriching", and "an incredibly beautiful experience for young women". These studies highlight the importance of how the framing of information and the language and imagery used in marketing strategies has the potential to bias consumers before they even engage with the advertising company (Keehn et al., 2015).

Similar to print advertisements, the DHHS recognizes websites as recruitment advertisements and notes how the information provided on the websites could also

constitute the earliest components of the informed consent process (DHHS, 2005). It is recommended that websites provide information that balances the risks and benefits involved in participation (DHHS, 2005). Klitzman et al (2008) found recruitment advertisements for clinical trials were often noncompliant with the regulations of the FDA and the DHHS, as many did not include a risk disclosure. The issue that Klitzman and his colleagues found with this exclusion on advertisements is that "anecdotal information suggests that some individuals decide to enroll in a study before they have seen the informed consent document or participated in the informed consent process" (Klitzman et al, 2008). This idea relates to what Kahneman and Tversky (1979) describe as the "anchoring heuristic", where initial information provided to an individual establishes the framework that influences how the individual processes and weighs information that could impact subsequent decisions.

Although this discussion is focused on the recruitment of subjects for clinical trials, the concepts similarly apply to the recruitment of egg donors. In both situations, individuals are recruited for a medical procedure that has the potential to pose a risk to them, while providing a benefit to others. Financial compensation and other non-monetary benefits can be offered to both clinical trial participants and egg donors, making the disclosure of information, particularly the risks, important in both contexts.

These arguments for the full disclosure of both the risks and the benefits have been extended to egg donor recruitment advertisements. In 1997, the National Advisory Board on Ethics in Reproduction (NABER) noted that there was no general concern with advertising for donors but there was an ethical concern directly related to the accuracy and the honesty of the information presented on a donor advertisement (NABER, 1997).

This reflects the ASRM advertisement guidelines that require all information to be accurate and that all risks and burdens associated with donation be transparent, particularly when benefits are included in the advertisement. In addition, the most recent ASRM guidelines regarding the rights of an egg donor outline the donor's right to be fully informed of the risks and the medical and emotional issues involved with donation, in order to make a fully informed decision (ASRM, 2014b). The argument can be made that these rights begin when information is first presented to potential donors on the recruitment advertisements. NABER, however, acknowledges the difficulty in regulating the disclosure of information on advertisements, as there is no easy method to monitor or verify the integrity of the information on advertisements (NABER, 1997).

Kenney and McGowan (2008) administered a survey to 80 women who first donated their eggs between 1989 and 2002 and found that 70.5% of women learned about egg donation through advertisements in print or broadcast media. Similarly, Fielding et al. (1998) found a majority (62%) of the women in his sample had first learned about egg donation through media, specifically newspaper articles, with a small percentage (8%) learning about egg donation from a medical professional. With advertisements often serving as a woman's first exposure to egg donation, it emphasizes the importance of providing accurate and sufficient information on the advertisements. Strong (2001) makes the argument that potential donors should be provided all information regarding the risks before the first office visit and before donors invest a significant amount of time and energy in the process. This is in response to the assumption that a potential donor uses the initial information they are provided, even in the recruitment advertisement, when deciding whether to participate in the donation process.

Gurmankin (2001) performed one of the few studies that evaluated when and what information is provided to egg donors during the recruitment process. She posed as a potential egg donor and called 19 IVF clinics and egg donor agencies that advertised in college newspapers. In the preliminary phone call, only 5% of the programs volunteered information about the risks and 21% avoided the questions regarding risk and referred Gurmankin to information that is typically mailed to prospective egg donors. This study was criticized for the small number of clinics and agencies included in the sample and for the assumption that the medical risks associated with egg donation should be discussed with potential donors over the phone (Cohen, 2001; Stock, 2001). There was support for Gurmankin's recommendation that a standardized risk statement be provided to all potential donors at the start of the donation process to reduce the potential for undue influence (Gurmankin, 2001).

Blake et al. (2015) discuss how the unique physician-donor relationship could be a factor in risk disclosure, as it presents a potential conflict of interest. It is typical for the physician of the egg donor to also serve as the physician for the intended recipient(s) who will receive the medical benefits (i.e. the donated eggs). One potential conflict of interest includes the conflict of commitment, as there is one doctor providing care to two different parties who have different interests (Dickens & Cook, 2006). With egg donation, the interests of the donor and the recipient can often diverge or conflict and the physician serving both parties is challenged to balance the needs of each party (Kalfoglou & Geller, 2000). In addition, the physician might have financial incentives to focus more on the interests of the recipients than the donors (Kalfoglou & Geller, 2000). Daar also notes concerns that a physician may fail to clearly disclose or describe to the egg donor

all of the medical risks associated with the donation process due to the physician's focus on the interests of the recipient rather than the donor (Daar, 2001).

Lerner (1996) provides an example of this situation. Posing as a potential egg donor, Lerner attended five appointments, including medical exams, tests, and counseling and noted that she did not feel like she was treated as a true patient because the physician's concern was focused toward the infertile recipients of the donated eggs (Lerner, 1996). Similarly, Almeling (2009) provides an account given by an egg donor clinic that said they always "err on the side of caution" to make sure they obtain as many eggs as possible from the egg donor. This again exemplifies the risk that the physician places more focus on providing the maximum medical benefits to the recipients and focuses less on the safety of the egg donor. The ASRM ethical guidelines acknowledge this unique physician-donor relationship where the physician could "encounter conflicts in promoting the best interests of both parties" and recommends that mechanisms be developed to ensure both donors and recipients are treated fairly (ASRM, 2007). However, Blake et al. (2015) suggest these self-regulations should be improved to specifically address issues of conflict of interest and conflict of commitment, in addition to increased disclosure requirements for the physician to inform the donor of any potential conflicts.

There are limited studies on the effectiveness of informed consent procedures in ensuring potential egg donors understand and consider the benefits and risks in donating. Referring again to the survey of previous egg donors completed by Kenney and McGowan (2008), the survey focused on the donors' awareness of the physical risks and their experiences of donating. All respondents had donated at least two years before

completing the survey. The results revealed that donors' self-reported awareness of the physical risks before they donated did not correspond to what they actually experienced during the donation process (Kenney and McGowan, 2008). A study conducted by Skillern et al (2013) found different results using short-term, rather than long-term, self-reported data from egg donors. The study measured donors' immediate understanding of the risks with an informed consent assessment measurement and found that potential donors showed very good subjective (perceived) and objective (performance-based) understanding prior to donation (Skillern et al, 2013). Intensive counseling was included in their study, which they recognized as being an integral factor in donors showing full understanding of the risks.

Commodification of Eggs

The payment that egg donors receive raises additional ethical concerns related to the commodification of eggs and the exploitation of the egg donor. Waldby et al. (2013) note that the issues of payment in relation to egg donation are grounded in how a woman values her eggs and views them as having "exchange value". A qualitative study of 43 potential egg donors showed most women believed egg donation for reproductive purposes should be an altruistic gift and no form of payment should be given to the egg donor (Waldby et al., 2013). Holland (2001) claims that paying egg donors for their donation disturbs their sense of human dignity, as parts of their bodies that we "associate with our personhood" are viewed as property and "sold off on the market for whatever the market will bear." Similarly, Rao (2006) notes the potential threat that compensation has on "engendering an attitude of disrespect for actual persons" because payment "treats

the sacred components of human life as a form of property." These concerns can be seen through the practices of egg donor agencies that help egg donors market themselves and highlight certain social characteristics that make them more "sellable" to potential recipients (Almeling, 2009).

There are arguments in support of compensation that relate to treating the donors fairly and reimbursing them for their time and physical commitments (Steinbock, 2004; Cohen, 1999). Kenney and McGowan (2014, p. 18) suggest that if egg donation is allowed, the "ethical option is to pay them well for their services", and provide compensation that goes beyond the financial and nonfinancial burdens an egg donor experiences. The qualitative study performed by Waldby et al. (2013), mentioned above, also found that most women viewed compensation acceptable when women donated eggs for research purposes. When donating for research, women are no longer providing a gift and should therefore be provided a "constrained form of money" to compensate women for the time required during the donation process (Waldby et al., 2013, p. 41).

However, it is when compensation is considered high that issues of exploitation of egg donors are raised (Steinbock, 2004; Acero, 2009; Cahn, 2009; Widdows, 2009). The concern is that high compensation has the potential to manipulate a woman into making a rash decision of becoming an egg donor and discounting the potential risks associated with the donation process (Steinbock, 2004; Levine, 2010). Widdows (2009) also notes concern that if such practices of egg donation are not labeled as exploitative, the practices will be normalized and extended, resulting in a market for women's eggs that exploits women at an unacceptable "cost price".

These issues of commodification are not unique to egg donation but have also been discussed more broadly with regard to organ, tissue or cell donations, and the resulting market systems (Kant, 1930; Crespi, 1994; Cunningham, 2003; MacKellar, 2014). The commodification of the human body relates to the discussions of whether the human body, including organs, tissues and cells, should be considered and accepted as the property of the person, to which they have exclusive rights (Grubb, 1998). If viewed as property, this would imply that an individual could use, or even sell, any part of their body, as they wanted. However, Kant (1930) notes that the commodification by an individual for their body or any part of their body may result in the individual being susceptible to objectification and being seen as the sum of their "marketable parts" (Cunningham, 2003). Similarly, Dickenson indicates, "If human tissue cannot be turned into a commodity without harming people's worth as person, then any form of tissue sale…is in a sense exploitative, whatever price is offered for it" (Dickenson, 2013).

Related to these issues on the commodification of various parts of the human body are the discussions concerning biomedical or clinical labor, which broadly, can include tissue donation to biobanks, clinical trial participation, and organ donation. (Waldby & Cooper, 2008; Scheper-Hughes, 2001; Cohen, 2001). Specific to egg donation, Waldby and Cooper (2008) argue that the market for human eggs and the sale of eggs is a form of clinical labor they refer to as reproductive labor. Recognizing egg donation as a form of a labor is believed to strengthen a woman's right over her body and protect the integrity of her body (Waldby & Cooper, 2008; Dickenson, 2007).

Egg Donation Regulation

Federal Policies

Currently, the United States has not implemented any federal regulation directly concerning the practice of egg donation recruitment or compensation. Relevant regulation includes the guidelines established by the FDA that regulate donated reproductive tissue, egg and sperm that is intended to be implanted in a human recipient and requires all donors to provide a thorough medical history and be free of any infectious disease (21 CFR 1271). The Fertility Clinic Success Rate and Certification Act (FCSRCA) of 1992 requires the CDC to collect data from IVF clinics in the U.S. for its annual report to Congress on ART success rates. There is no federal law that specifically addresses egg donor advertisements. However, they are subject to the Federal Trade Commission (FTC) Act and the prohibitions against false or deceptive advertising (15 U.S.C. §§ 41-58). See Table 2.1 for the language of the FTC Act that is relevant to egg donor recruitment advertisements.

Self-Regulations from Professional ART Organizations

In the absence of federal regulation, self-regulations have been developed by two professional organizations to assist physicians in the treatment of their patients: ASRM and SART. Related to egg donor compensation, the ASRM guidelines state financial compensation is justified for women donating their eggs for the purposes of infertility therapy or research (ASRM, 2007). Payments above $5,000 are considered to need justification and payments above $10,000 are not considered appropriate by ASRM (ASRM, 2007). The current guidelines do not provide an example or definition of what

serves as an appropriate justification. The ASRM recommendation of $5,000 as a reasonable maximum compensation for a single egg donation cycle was developed from a comparison to the compensation rates sperm donors received. The average compensation received by a sperm donor in 2000 ($60-$75/hour) was multiplied by the average number of hours required for a woman to complete an egg donation cycle (approximately 56 hours) (Krawiec, 2014). Additional compensation was included to recognize the more substantial physical and psychological risks and discomforts involved with egg donation in comparison to sperm donation (Krawiec, 2014).

The ASRM guidelines address the issue of risk disclosure on egg donor recruitment advertisements by stating "if financial or other benefits are noted in advertisements, the existence of risks and burdens also should be acknowledged" (ASRM, 2007). More generally, the guidelines provide that "programs offering financial incentives should ensure that advertisements for donors are accurate and responsible" (ASRM, 2007). The motivations for these ASRM guidelines was to help ensure that potential donors were provided accurate information about the donation procedure and were aware that there were potential risks associated with the procedure before they made the decision to proceed (Personal Communication with Sean Tipton, January 10, 2014). The ASRM guidelines have no formal regulatory power and their self-regulatory force applies only to those IVF clinics that are members of SART and to egg donor agencies that register with SART and sign an agreement to follow the ASRM guidelines.

Table 2.1. Federal Laws and Self-Regulations Relevant to Egg Donor Recruitment Advertising

Law/Self-Regulation	*Relevant Language*
FTC Act [15 U.S.C. §§ 41-58]	"The term 'false advertisement' means an advertisement, other than labeling, which is misleading in a material respect; and in determining whether any advertisement is misleading, there shall be taken into account (among other things) not only representations made or suggested by statement, word, design, device, sound, or any combination thereof, but also the extent to which the advertisement fails to reveal facts material in the light of such representations or material with respect to consequences which may result from the use of the commodity to which the advertisement relates under the conditions prescribed in said advertisement, or under such conditions as are customary or usual."
ASRM Ethics Committee: *Financial Compensation of Oocyte Donors* (2007)	"If financial or other benefits are noted in advertisements, the existence of risks and burdens also should be acknowledged." "Programs offering financial incentives should ensure that advertisements for donors are accurate and responsible."

State Laws Related to Egg Donation

State regulatory action concerning egg donation has primarily focused on establishing parental rights, releasing donor identity to donor offspring, providing informed consent, compensation for egg donors, and the clinical practices involving egg donation (Swain, 2014). California is the only state that specifically regulates risk disclosure in recruitment advertisements for potential egg donors. AB 1317 requires that all entities that post egg donor advertisements offering "financial payment or compensation of any kind" for egg donation also include a notice indicating that there may be risks associated with donation and requires that the donor receive specific information on the known risks before agreeing to proceed. Alternatively, the entity may

certify compliance with the ASRM guidelines by registering with ASRM. Therefore, all egg donor advertisements placed in California that list the compensation offered to potential donors are required to include the risk disclosure clause established by the California law or include a risk disclosure that complies with the ASRM guidelines. The author of the original version of the AB 1317 indicated that the purpose of the California law was "to help women make an informed decision" given the concerns that financial incentives "may unduly influence the judgment of young women" (Miller, 2009). The state legislation pertaining to egg donation is summarized Table 2.2.

Table 2.2. Summary of Enacted State Legislation Related to Egg Donation

Oocyte Donation Regulation	State(s) that Enacted Regulation
All potential oocyte donors are required to provide full medical history and undergo a comprehensive medical exam to ensure the health of donor.	New Hampshire (REV. STAT. ANN. § 168-B:14) (1999) Virginia (CODE ANN. § 32.1-45.3) (1999) Washington (S 2912.2) (2011)
Oocyte donors are required to read and sign an informed consent before participating in the donor program.	New York (10 NYCRR 52-8.8) (2010) Arizona (SB 1306) (2010)
It is required that all oocyte donors be provided an informational packet containing details of procedures, storage, use and potential risk of oocyte donation.	New York (10 NYCRR 52-8.8) (2010)
Physicians are required to provide potential donors with a standardized written explanation of the health and consumer risks recognized by the American Society for Reproductive Medicine (ASRM), or equivalent, prior to signing the informed consent.	California
All advertisements that solicit women to donate oocytes for reproductive purposes are required to include a reference to the possible health risks of donation.	California (Cal. Health & Saf Code § 125325) (2009)
Only "reasonable compensation" is permitted for egg donation.	Florida (F.S. §742.14) (2006)
Insurer or health maintenance organizations are not required to cover the services associated with the sale or donation of human oocytes.	Indiana (HB 1331) (1999)
There is nothing that prohibits an individual from donating their oocytes to another individual.	Massachusetts (Senate No. 2039) (2005)
The sale of human ovum is prohibited.	Louisiana (REV. STAT. ANN. § 9:122) (2000)

Previous Studies on ASRM Compliance

Several studies have examined compliance with various ASRM guidelines (Alberta et al, 2013; Hawkins, 2010; Keehn et al, 2012; Levine, 2010; Luk & Petrozza, 2008). These studies have primarily focused on the evaluation of compliance with donor age recommendations and financial compensation offered to donors. Only two studies

have been identified that evaluated the inclusion of risk disclosure but this was on IVF clinic and egg donor agency websites (Keehn et al, 2012; Carter et al, 2012). To my knowledge, there have been no studies that have examined compliance with the ASRM risk disclosure requirements on recruitment advertisements, such as those that appear online or in college newspapers.

CHAPTER 3: STATEMENT OF PROBLEM AND RESEARCH QUESTIONS

To my current knowledge, there are no studies, previous to my 2014 published paper, that evaluated the adherence of egg donor recruitment advertisements to the ASRM risk disclosure regulations or compliance with the California law on risk disclosure (Alberta et al, 2014). In addition, there are no known studies that evaluate how, if at all, the inclusion of risk disclosure on egg donor advertisements impacts a potential donor and her likelihood of participating in the donation process. This dissertation aims to explore these areas related to egg donation. The results provide further insight into the current practices of risk disclosure on egg donor advertisements and the impact that risk disclosures can have on potential donors at the earliest stage of the recruitment process.

Research Questions

The research questions are grouped into two categories: the current practices of risk disclosure on egg donor recruitment advertisements and the impact of early risk disclosure on potential donors.

Current Practices of Risk Disclosure

The first research question is to what extent an egg donor recruitment advertisement that lists one or more benefits of egg donation also includes a risk disclosure. To evaluate this question of risk disclosure rates, the study uses egg donor advertisements collected from Craigslist, an online Classifieds and forum community. Given the ASRM's recommendation that the risks of egg donation be provided on an

advertisement that also includes the benefits, the expectation might be that a majority of the Craiglist advertisements listing a benefit will also include the risks of donation. However, as previously noted, comparable studies of egg donor websites and their compliance with the ASRM ethical guidelines showed a high rate of noncompliance (Carter, 2012; Keehn, 2012). Therefore, I expect to find that a majority of the egg donor advertisements collected from Craigslist will not comply with the ASRM guidelines on risk disclosure and will include benefits on the advertisements without also noting the potential risks.

Because the ASRM self-regulatory force extends only to ASRM members, the second research question is whether there is a significant difference in risk disclosure between those entities that are subject to the ASRM ethical guidelines and those entities that are not. Previous studies that examined the compliance with various ASRM guidelines found considerable noncompliance, to include issues with varying compensation based on donor's traits, donor age recommendations and risk disclosure on egg donor websites (Alberta et al, 2013; Hawkins, 2010; Keehn et al, 2102; Levine, 2010). I anticipate similar results when evaluating the Craigslist egg donor advertisements and do not expect advertisements placed by ASRM members to show a significantly higher rate of risk disclosure than non-ASRM members.

Similar to the second question is whether there is a significant difference in the disclosure of risk in egg donor advertisements subject to California state law and those that are not. Because the California law has more regulatory force than the ASRM ethical guidelines, I expect to find that egg donor advertisements placed by California entities

will show a higher rate of risk disclosure than advertisements placed by entities located outside of California.

The hypotheses for these first three questions are summarized below:

- H1.1 *A majority of the egg donor advertisements collected from Craigslist will not be compliant with the ASRM ethical guidelines that recommend the risks of egg donation be listed on an advertisement when benefits are also included.*
- H2.1 *Egg donor advertisements placed by entities subject to the ASRM guidelines will not show a significantly higher rate of risk disclosure than advertisements placed by entities that are not subject to the ASRM guidelines.*
- H3.1 *Egg donor advertisements placed by California entities will show a higher rate of risk disclosure than advertisements placed by entities located outside of California.*

Impact of Early Risk Disclosure

The next two research questions examine the impact of disclosing risk to potential egg donors early in the recruitment process, on the recruitment advertisements. These questions will be evaluated through a survey administered to female graduate students. The survey will include a mock egg donor advertisement, similar to egg donor advertisements that appear in current college newspapers, followed by questions that evaluate the respondent's reaction to the advertisement.

The first research question is to what extent the inclusion of a risk disclosure in egg donor advertisements impacts a potential donor's willingness to participate in the donation process. It is expected that a woman's initial thoughts on egg donation will be less favorable when she is exposed to risk and she will therefore show a decreased willingness to participate as an egg donor compared to a woman not exposed to the risks. In addition, women exposed to a risk disclosure are expected to note more concern about the risks associated with the egg donation process than women not exposed to a risk

disclosure, and are expected to be more likely to research egg donation on their own and/or consult with a physician.

The second impact-related research question is to what extent the monetary compensation listed on an egg donor advertisement influences the potential donor's perception or evaluation of the risks involved with donation. The compensation listed on the advertisements will be randomly varied, listing either $5,000 per donation cycle or $10,000 per donation cycle. Women exposed to the higher of the two compensations are expected to show a higher willingness to participate as an egg donor and are expected to note less concern about the risks associated with the egg donation process.

A summary of these hypotheses is provided below:

- H4.1 *Women who view an egg donor recruitment advertisement that includes a risk disclosure will show a decreased willingness to participate as egg donors compared to women who receive an advertisement with no risk disclosure.*
    - H4.1.1 *Egg donor advertisements with a specific risk disclosure will show a greater effect on the woman's willingness to participate as an egg donor compared to advertisements with a general risk disclosure or no risk disclosure.*
- H4.2 *Women who evaluate a recruitment advertisement with risk disclosure will be more likely than those women who view an advertisement without risk disclosure to research or ask questions about the egg donation procedure.*
- H4.3 *Women who view an egg donor advertisement that offers $10,000 compensation will show a higher willingness to participate as an egg donor than women who receive an advertisement that offers $5,000 compensation.*
- H4.4 *Women who score high on the risk averse scale are more attune to the risks associated with egg donation and will show a decreased willingness to participate as an egg donor compared to women who score low on the risk averse scale.*
- H4.5 *Women who rate themselves high on the altruism scale will show an increased willingness to participate as an egg donor compared to women who rate themselves low on the altruism scale.*
- H5.1 *Women who view a recruitment advertisement with a risk disclosure will indicate more concern about the risks associated with the egg donation process*

compared to those women who do not receive an advertisement with risk disclosure.

- H5.2 *Women who receive an egg donor advertisement that offers $10,000 compensation will note less concern about the risks associated with egg donation than women who receive an advertisement that offers $5,000 compensation, controlling for risk disclosure*.

CHAPTER 4: RESEARCH METHODS—CRAIGSLIST ADVERTISEMENTS

Analysis of the Craigslist Egg Donor Advertisements

Data Collection

The egg donor recruitment advertisements used to assess the current practices of risk disclosure were collected from Craigslist, an online classifieds and forum community (www.craigslist.org/about/sites/#US). Non-online sources, such as radio advertisements and billboards were considered, but online sources were found to make the most sense for this study. The decision to collect advertisements from an online classifieds community was in an effort to compliment previous studies that have evaluated egg donor advertisements found in college newspapers (Levine, 2010) and the information provided directly on the fertility clinic or agency websites (Covington & Gibbons, 2007; Luk & Petrozza, 2008; Keehn et al., 2012 & 2016). Other online classifieds were considered for this analysis. These included fertility and surrogacy websites that had a classified advertising section, such as the Fertility Nation Classifieds (www.fertilitynation.com/fertility-nation-classifieds/). When Fertility Nation Classifieds was first searched in November 2011, a total of 52 advertisements related to egg donation were identified and consisted primarily of individual couples searching for an egg donor and reliable fertility clinics, as well as women advertising to be egg donors.

Uloop College Classifieds, an online market place where college students can buy, sell, and share with other students was also evaluated for this study (http://www.uloop.com/). At the time of the analysis, Uloop was available for only 53

U.S. colleges and there was an issue with duplicates, as 27 out of the 53 colleges only listed the same two egg donor advertisements. Given the limitations of these other online classifieds, Craigslist was considered to yield a more representative sample of egg donor advertisements. Additional benefits of using Craigslist included the classifieds being free, readily accessible, and not limited on space, as is often the case with newspaper advertisements.

There is limited information on how common it is for women to learn about egg donation through the advertisements placed by fertility clinics, agencies and individuals on Craigslist. As noted previously, one of the most recent studies by Kenney and McGowan (2008) found that of the 90 egg donors they surveyed, 70.5% of the women learned about egg donation through advertisements in print or broadcast media. Of these women, a quarter noted that the advertisements they first observed were in a college or university newspaper. I completed a review of a small subset of advertisements collected from Craigslist and found that the information and the content of the Craigslist advertisements was similar, if not identical in some cases, to the advertisements found in U.S. college newspapers and the information provided on fertility clinic and agency websites. Given these similarities and the other benefits of using Craigslist, the Craigslist advertisements were therefore determined to be a reasonable sample for a content analysis focused on assessing the current practices of risk disclosure in egg donor recruitment advertisements.

To ensure the data were consistent between the cities searched in Craigslist, all of the advertisements were collected during the week of November 28, 2011. This was important to the data collection process because Craigslist advertisements remain online

for only 30 to 45 days, depending on the city and posting type, as defined by Craigslist regulations on post expirations[1]. To determine the cities from which the Craigslist advertisements were collected, the 2010 U.S. Census Report was used to identify the top 50 metropolitan statistical areas (MSA), defined by population (Table 4.1). Due to how Craigslist classifies specific cities, only 48 cities had distinct Craigslist sites and were searched for egg donor recruitment advertisements. The following four MSAs were apart of the top 50 MSAs but were not included in the search because they were not listed in Craigslist: Riverside, Virginia Beach, San José, and San Juan.

Table 4.1. 48 Top MSAs Used in Craigslist Search (Alphabetical Order)

City	Number of Advertisements Found on Craigslist
Atlanta	14
Austin	9
Baltimore	4
Birmingham	10
Boston	20
Buffalo	5
Charlotte	3
Chicago	18
Cincinnati	3
Cleveland	3
Columbus	3
Dallas	5
Denver	11
Detroit	7
Hartford	10
Houston	7
Jacksonville	7
Kansas City	3
Las Vegas	9
Los Angeles	31
Louisville	2
Memphis	4
Miami	6
Milwaukee	4

[1] The current Craigslist regulations on post expirations can be found at: https://www.craigslist.org/about/help/posting_lifespans (Last viewed August 27, 2016). I first viewed this page five years ago and the expiration rules have remained the same during that time period.

[2] The analyses on the disclosure of risk, risk disclosure by entities subject to ASRM guidelines, and risk disclosure by entities subject to the California law were presented in a previously published paper (Alberta

Minneapolis	2
Nashville	6
New Orleans	3
New York City	54
Oklahoma City	2
Orlando	6
Philadelphia	6
Phoenix	5
Pittsburgh	4
Portland	12
Providence	10
Raleigh	6
Richmond	4
Riverside	12
Sacramento	11
San Antonio	8
San Diego	21
San Francisco	26
Seattle	13
St. Louis	6
Tampa	6
Virginia Beach	1
Washington DC	14

Each city was individually searched in Craigslist. For each city, multiple searches were completed in the order shown in Table 4.2. The two search terms, “Egg Donation” and “Egg Donor”, were identified as being inclusive in identifying the egg donor advertisements placed on Craigslist. However, it is recognized that limiting the search to only the two search terms could have resulted in a small number of relevant advertisements not being identified. The terms “oocyte” and “oocyte donor” were considered, as they are additional terms associated with egg donation, but did not result in any new advertisements. All searches were first completed using the search term “Egg Donation” and then using the term “Egg Donor”. Each advertisement title that was identified and viewed using the search term “Egg Donation” changed color and remained marked when the search was then completed using the search term “Egg Donor”. This

helped prevent counting the same advertisement twice and allowed for easy identification of the additional advertisements found using the search term "Egg Donor".

Table 4.2. Order of Craigslist Searches Completed for Each City

Search Number	Keyword Searched	Category Searched
1	Egg Donation	Jobs
2	Egg Donation	Services
3	Egg Donation	For Sale/Wanted
4	Egg Donation	Gigs
5	Egg Donor	Jobs
6	Egg Donor	Services
7	Egg Donor	For Sale/Wanted
8	Egg Donor	Gigs

The advertisements were categorized in Craigslist as one of the following: Jobs, Services, For Sale/Wanted or Gigs. It was possible for an advertisement to be posted on Craigslist multiple times during the one-week search period. To account for these duplicates, only those advertisements that had a unique title or text in the body of the advertisement were used in the analysis. This was in part because the advertisement titles often included relevant information with regard to donor compensation or donor characteristics. An Excel database was maintained throughout the data collection process that recorded the number of advertisements from each city searched, the keywords used to identify the advertisement and the category in which the advertisement was found. A total of 435 egg donor advertisements were collected.

Content Analysis

A content analysis was performed on all advertisements. In total there were 32 questions answered for each advertisement with questions related to the following four categories: advertiser characteristics, financial compensation, risk disclosure, and donor

characteristics (Table 4.3). Before applying the content categories and questions to all advertisements, 20 advertisements were randomly selected from the Craigslist sample to determine if all relevant and necessary information was captured in the proposed categories and questions. To ensure the objectivity of the categories and questions, and to test for question clarity, three coders performed this preliminary analysis. Appropriate modifications were then made to the original coding scheme and a list of the final content specific questions, along with the coding key and the explanation of each question is shown in Table 4.3.

Table 4.3. List of Content Questions with Coding Key and Explanation

Question	*Coding Key/Explanation*
Advertiser Characteristics	
Agency (0/1)	Yes, if Agency placed ad. Found in ad or on website.
Clinic (0/1)	Yes, if Clinic placed ad. Found in ad or on website.
Specific Couple/Individual (0/1)	Yes, if specific couple/individual recipient(s) placed ad.
Unspecified (0/1)	Yes, if unable to determine if clinic, agency or specific couple/individual.
City Searched (Free Text)	City used for Craigslist search.
Location Listed (Free Text)	Location listed in Craigslist. Instances when there is no location listed.
Agency/Clinic Name (Free Text)	Name of agency or clinic listing ad. In couple/individual, leave blank.
State of Search (Two-Letter State Code)	State of the city that was used for Craigslist search.
State of Ad Entity (Two-Letter State Code)	Found on advertising entity website. Some agencies will not list location and are left blank.
Financial Compensation	
Compensation Listed (0/1)	Yes, if compensation is listed in the body or title of the ad.
Compensation Range (0/1)	Yes, if compensation is given in a range with a minimum and maximum.
Minimum Compensation ($)	Minimum compensation recorded in dollars.
Maximum Compensation ($)	Maximum compensation recorded in dollars.
Average Compensation ($)	Excel used to compute the average compensation (=(Min+Max)/2)
Single Compensation ($)	Some ads do not list compensation range but instead have a standard compensation/cycle.
Risk Disclosure	
Medical Risk (0/1)	Yes, if ad lists/mentions any medical risks associated with egg donation.
Acknowledged (0/1)	Yes, if ad acknowledges the potential risks to potential donor.
Notes (Free Text)	If applicable, note details regarding acknowledgment of risks.
Denied (0/1)	Yes, if ad denies any risks of egg donation.
Notes (Free Text)	If applicable, note details on the risks denied.
Donor Characteristics	
Minimum Age (#)	Record the minimum donor age in years.
Maximum Age (#)	Record the maximum donor age in years.
Educational Preference Described (0/1)	Yes, if ad notes educational preference of egg donor.
Highest Degree Mentioned	If applicable, list: A=High School/GED; B=Some College; C=College; D=Advanced (Masters, PhD, JD, MD).
Notes on Educational Degree (Free Text)	If applicable, note additional details on educational requirements.
Ethnicity/Religion Required (0/1)	Yes, if ad notes that they are accepting only specific ethnicities/religions.
Ethnicity/Religion Mentioned (0/1)	Yes, if ad notes particular ethnicities/religions that are preferred.
Notes on Ethnicity/Religion (Free Text)	If applicable, note details on the ethnicities/religions required or preferred by the advertising entity.
Preferred Physical Characteristics (0/1)	Yes, if ad notes specific donor physical characteristics desired.
Notes on Physical Characteristics (Free Text)	If applicable, list the physical characteristics desired.
Preferred Personality Traits (0/1)	Yes, if ad notes specific donor personality traits desired.

Notes on Personality Traits (Free Text)	If applicable, list the personality traits desired.

Note: For all questions that list (0/1), 0=No and 1=Yes
Note: Entries left blank to indicate an answer was not found on the ad or was not applicable.

In the cases where an advertisement did not provide all advertiser characteristics, Internet searches were performed using other advertiser information, such as a listed email address or phone number. The SART membership status of each IVF clinic was determined using the SART website (http://www.sart.org/Find_A_Clinic/). The website allows users to search each state individually and gives the clinic name, address, contact information, and director name(s) (i.e. lab director or medical director). In addition, SART provides a clinic summary link for each clinic that reports the clinics' outcomes using various IVF techniques. If an advertising entity from the Craigslist sample was found through the SART "Find A Clinic" webpage, they were recorded as being a SART member. While egg donor agencies are not required to be SART members, membership helps legitimize their practice and agencies have the option to sign an agreement with SART stating they follow the ASRM ethical guidelines. A list of the agencies that signed an agreement with SART was publicly available in 2011, when this analysis was originally conducted and used to determine agencies that voluntarily held themselves responsible for upholding the ASRM guidelines. However, since the start of the *Kamakahi v American Society for Reproductive Medicine* lawsuit in late 2011 (See Chapter 2), this list of agencies is no longer publicly available on the SART website.

Several coding approaches were explored to develop a coding system that accurately evaluated if an advertisement met the intent of the language in the ASRM guidelines to acknowledge the "existence of risks" when benefits are included in the advertisement. It is noted that the ASRM guidelines make a distinction between risks and

burdens and require that both be mentioned on advertisements when financial or other benefits are listed. However, for this analysis, only disclosing the associated risks of the egg donation procedure was regarded as essential for meeting the guideline, because it is perceived that the ethical concerns of egg donation outlined in Chapter 2 focus on the risks more so than the burdens. This distinction resulted in the development of a coding system that considers an advertisement to adhere to the ASRM guidelines when they acknowledged the risks associated with egg donation.

Before analyzing the disclosure of risks, each advertisement was first evaluated for the inclusion of a financial benefit. Some of the advertisements listed a compensation range (i.e. $6,000-$8,000 per donation) or a single compensation rate per donation (i.e. $5,000/donation), and these advertisements were noted as listing a financial benefit. The financial benefit could appear in the title of the advertisement, the body of the advertisement, or both. For advertisements that listed a range of compensation, the minimum and maximum compensations were recorded and Excel was used to compute the average compensation for that advertisement. Categorizing the advertisements by entity, the average *maximum* compensation was determined for the advertisements placed by agencies, clinics and individuals/couples, referred to as "personal" advertisements for this analysis. The maximum compensation was also evaluated in relation to specific donor characteristics, including: ethnicity/religion, higher education, preferred physical characteristics, and preferred psychological characteristics. An analysis was completed to determine if the maximum compensation listed on an advertisement varied with the inclusion of these donor characteristics.

As a part of the original preliminary analysis, an analysis on the egg donor advertisements was performed on a random selection of 20 advertisements from the Craigslist sample to identify language, other than the term "risk(s)", that conveyed the potential risks associated with egg donation (Table 4.4). The advertisements were evaluated for using general terms that might result in the reader inferring risk, to include: "dangerous", "hazardous", "side effect", "complication", "warning" or "injury". Of these general risk terms, only one advertisement used the term "complication" to indicate there were "low risks of complication" from the donation process. Risk language that referred more specifically to the egg donation process was also evaluated and included terms such as: "injection", "egg retrieval surgery", and "blood drawn". The term "risk" was found to be predominately used in the advertisements followed by the more specific terms, such as "injection" or "egg retrieval surgery". However, these terms were not viewed as clear indicators of the risks associated with donation but were more associated with the burdens of egg donation.

Table 4.4. Risk Terminology

Terms Related to Risk Disclosure	Number of Advertisements
Risk	69
Injection/Injectable Medication	29
Egg Retrieval Surgery	3
Blood Drawn	1
Complication	1
Ultrasound	1
Dangerous	0
Hazardous	0
Injury	0
Side effect	0
Warning	0

From this preliminary analysis of terminology, a straightforward coding strategy was developed. Advertisements were evaluated for whether or not they included the term

"risk(s)" and if they did include the term, the use of the term was evaluated to ensure it was referring to the potential risk to the donor. A total of 69 advertisements included the word "risk" and 68 of these advertisements used the term in reference to the egg donor. One advertisement used the term "risk" in reference to the possible risk of infectious disease up to one year after getting a tattoo or body piercing. Because this referred to the possible risk that could be transferred to the future child rather than a risk to the donor, this advertisement was excluded from the data set. According to this coding strategy, the 68 advertisements that included the relevant use of the term "risk" were coded as adhering to the ASRM risk disclosure guidelines.

Analytical Approach

A total of 435 advertisements were collected from Craigslist. The states in which the advertisements were searched for in Craigslist were further grouped into regions, as defined by the 2010 U.S. Census Bureau. There were 54 advertisements from the North East, 117 from the Midwest, 108 from the South, and 156 advertisements from the West. Forty-three unique egg donor agencies were identified as placing one or more of the Craigslist advertisements, 28 fertility clinics, and 19 individuals/couples. The results of the content analyses were used to evaluate the research questions outlined in Chapter 3. Specifically, a standard t-test was performed to determine if there was a significant difference in the risk disclosure on advertisements and the adherence to the ASRM guidelines between the following: egg donor agencies and clinics, SART and Non-SART entities, and California entities and entities outside of California.

CHAPTER 5: RECENT RISK DISCLOSURE PRACTICES— CRAIGSLIST EGG DONOR ADVERTISEMENT ANALYSIS

Introduction

The advertisements collected from the top 50 MSAs in the U.S. help show the recent landscape of what egg donor advertisements look like across the country. An example advertisement from the Craigslist sample is shown in Figure 5.1. The Craigslist advertisements provide examples of recent practices employed by the entities placing the advertisements with regard to the information that is included for potential egg donors. Using this sample of advertisements, the analyses on the current practices of risk disclosure on egg donor recruitment advertisements and adherence to ASRM guidelines was completed[2].

[2] The analyses on the disclosure of risk, risk disclosure by entities subject to ASRM guidelines, and risk disclosure by entities subject to the California law were presented in a previously published paper (Alberta et al, 2014).

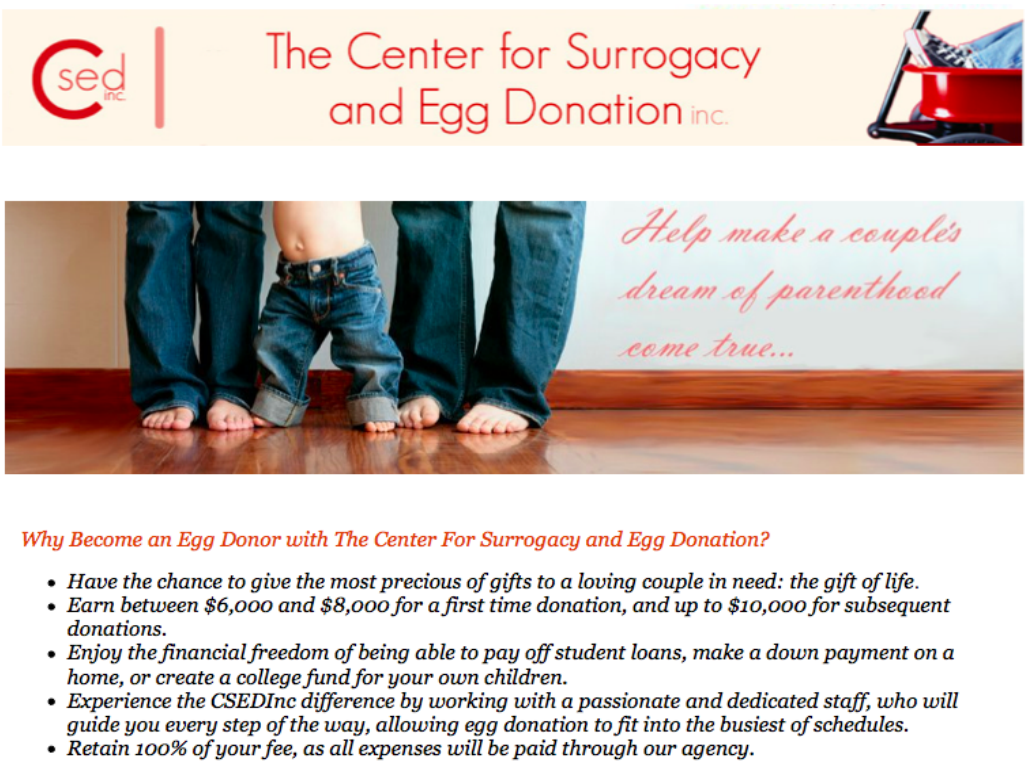


Figure 5.1. Example Advertisement from Craigslist Sample (November 2011)

Disclosure of Risk on Craigslist Egg Donor Advertisements

Financial Benefits

The first research question was to what extent an egg donor recruitment advertisement that lists one or more benefits of egg donation also includes a risk disclosure. If an advertisement did not list a financial or other benefit, according to the ASRM guidelines, that advertisement would not be required to list the potential risks of egg donation. Therefore, before evaluating the risk disclosure in the advertisements, each advertisement was first assessed for the inclusion of a financial benefit. Of the 435 egg donor recruitment advertisements collected from Craigslist, 424 (97%) listed a financial benefit. The 11 (3%) advertisements that did not include a benefit were excluded from the analysis, as it was not required that those advertisements include a risk disclosure.

The financial compensation listed on the advertisements was given in a range, (i.e. $6,000-$8,000 per donation) or as a single compensation value per donation (i.e. $5,000 per donation). In the Craigslist example shown in Figure 5.1, the compensation is listed as a range of $6,000 to $8,000 for the first donation and then up to $10,000 for any future donations. Within the sample of 424 Craigslist advertisements that listed financial compensation, the minimum compensation observed was $2,000 per donation and the maximum compensation was $50,000. The $50,000 was seen on an advertisements placed by an individual/couple.

The variance in the financial compensation listed on the advertisements was first evaluated by entity type. Categorizing the advertisements by entity (agency, clinic, personal), the average *maximum* compensation was determined for each entity on the advertisements that listed a compensation range (Figure 5.2A). The same was completed for advertisements that listed a single compensation per donation, and an average single compensation for each entity was calculated (Figure 5.2B).

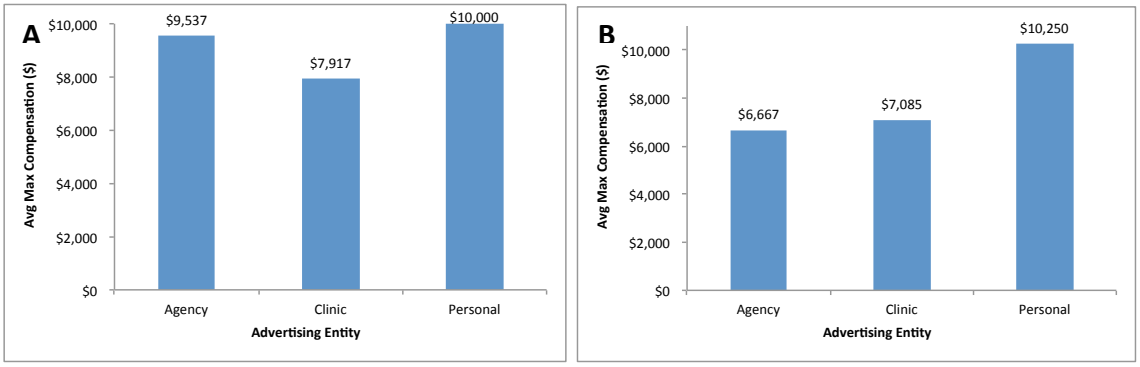


Figure 5.2. Average Compensation Listed on Advertisement by Entity. A) Average maximum compensation by entity for advertisements that listed compensation in range. B) Average single compensation by entity for advertisements that listed compensation in a single compensation rate per donation.

Figure 5.2A shows the average maximum compensation listed on the advertisements that list compensation as a range is similar for the egg donor agency and

personal advertisements. Both showed an average maximum compensation near $10,000, which is above the $5,000 that ASRM recommends, as a reasonable maximum compensation for a single egg donation cycle (ASRM, 2007). In advertisements that listed a single compensation rate per donation, egg donor agencies and fertility clinics showed similar average single compensations at approximately $7,000. Personal advertisements listing a single compensation had a higher average of $10,250, however, personal advertisements are also not subject to the ASRM guidelines.

Financial compensation was also evaluated in relation to specific donor characteristics, to include: ethnicity/religion, higher education, preferred physical characteristics, and preferred psychological characteristics. For each donor characteristic, an independent two-tailed t-test was performed to determine if there was a significant difference ($P<.05$) in the average maximum compensation offered on advertisements that noted the specific donor characteristic and those that did not. The analysis was performed using the average maximum compensation for advertisements that listed compensation as a range and using the average single compensation for the advertisements that listed a single compensation per donation. A summary of the results is shown in Table 5.1.

Table 5.1. Significant Difference in Average Maximum Compensation on Advertisements that Listed Specific Donor Characteristics

Donor Characteristic	Included on Ad	Not Included on Ad	Significant Diff. (P-value)
Average Maximum Compensation			
Ethnicity/Religion	$9,390	$9,564	0.213
Higher Education	$9,779	$9,165	0.001
Preferred Physical Characteristics	$9,889	$9,481	0.073
Preferred Personality Characteristics	N/A	$9,513	<0.0001
Average Single Compensation			
Ethnicity/Religion	$7,461	$7,099	0.630
Higher Education	$7,894	$6,874	0.158
Preferred Physical Characteristics	$10,589	$6,726	0.536
Preferred Personality Characteristics	$8,706	$6,596	0.0002

The advertisements that mentioned a preference for a donor with a higher education offered an average *maximum compensation* that was significantly higher ($P<.05$) than those advertisements that did not (Table 5.1). Advertisements were found to list potential recipient's preference for donors with an education from an "Ivy League", "Top Ten", or a specific university, such as Yale or Stanford. There was also a preference for those donors that had completed or were currently pursuing an advanced degree, such as a Masters, PhD, M.D. or J.D. The average maximum compensation offered on the advertisements that preferred donors with a higher education was $615 higher per donation than that offered on the advertisements that did not list a higher education preference (Table 5.1). This finding did not hold true for advertisements that listed a single compensation and the average single compensation for advertisements that preferred a donor with higher education was not significantly different from those advertisements that did not include higher education preferences.

Preferred donor personality characteristics was also found to have a significant impact on the financial compensation listed on advertisements. There were no advertisements that listed a range of compensation per donation **and** included preferred personality characteristics. However, for advertisements that listed a single compensation per donation, the advertisements that included preferred personality characteristics had a significantly higher ($P<0.05$) average single compensation than those advertisements that did not list personality preferences. Examples of the personality traits listed on these advertisements used words and phrases, such as: "bright", "positive attitude", "intelligent", "friendly", "loves outdoors", "interest in arts", "ambitious", and "self motivated". The average maximum compensation offered on advertisements that listed specific personality characteristics was $2,110 higher per donation than that offered on advertisements that did not list any personality preferences (Table 5.1).

The preference for specific donor physical characteristics and donor ethnicity/religion was not found to impact the financial compensation offered on an advertisement. Specific donor physical characteristics primarily related to general hair color, eye color or both. An example is an advertisement that listed "brown hair, blue eyes and extremely attractive". However, there were some personal advertisements that provided more detailed preferences for particular physical characteristics, such as "fair skin, small to medium framed, brown to blonde hair, blue eyes, and a big nose" or a donor that was "average-tall height, lean, attractive, with blonde hair or light brown hair, and light eyes". Related to ethnicity/religion, advertisements would note a preference for donors that were African American, Asian, Chinese, East Indian, Hispanic, Brazilian, Mixed Race, Italian/Mediterranean, Catholic/Christian, or Jewish. This is not an

exhaustive list but shows how the ethnicity/religion listed on advertisements ranged from general to very specific race/ethnicities, in particular.

Disclosure of Risk

Of the 424 advertisements that included financial benefits, 68 (16%) were found to also include a risk disclosure, using the minimum requirement that the advertisements include the term "risk". A total of 358 (84%) did not include the term "risk".

For the 68 advertisements that included the term "risk", there were two unique uses of the term:

1. "As with any medical procedure, there may be **risks** associated with human egg donation. Before an Egg Donor agrees to begin the Egg Donation process, and signs a legally binding contract, she is required to receive specific information on the known **risks** of Egg Donation."
2. "Low **risk** of complications."

Each of the 68 advertisements included the first disclosure, with the exception of one advertisement. The first disclosure matches the risk disclosure language required by the California law (Cal. Health & Saf Code § 125325) for advertisements posted in California.

To determine if the failure to include a risk disclosure was driven by advertisements placed by a specific type of entity, the advertisements were categorized by entity type. Because personal advertisements are not subject to the ASRM guidelines, the 19 personal advertisements were excluded from the analysis. An additional 12 advertisements were excluded because they could not be assigned to a specific source or

the clinic or agency could not be identified. Because entities could have placed several advertisements within the one-week period that the advertisements were collected, entities were classified as "partially compliant" with the ASRM guideline on risk disclosure if they placed at least one compliant advertisement that included the term "risk". Entities were classified as "fully compliant" if all of their advertisements within the Craigslist sample satisfied the ASRM guideline. There was no significant difference in the percent of partially, fully, or non-compliant advertisements placed by agencies and clinics.

Table 5.2. Comparison of Agency and Clinic Compliance

	Agency	**Clinic**
# Entities	43	28
% Fully Compliant	12% (5)	4% (1)
% Partially Compliant	7% (3)	0% (0)
% Non-Compliant	81% (35)	96% (27)

Risk Disclosure by Entities Subject to ASRM Guidelines

The second research question was whether there is a significant difference in risk disclosure between those entities that are subject to the ASRM risk disclosure guidelines and those entities that are not. To complete this analysis, entities were classified as SART (i.e. subject to ASRM guidelines) or non-SART (i.e. not subject to ASRM guidelines) and a comparison of risk disclosure was completed. A non-SART entity would include an egg donor agency that did not register with SART and therefore did not sign an agreement to abide by the ASRM guidelines. Advertisements that were posted by entities located in California were excluded from this analysis because both SART and non-SART California entities are subject to the California law.

There were a total of 302 advertisements placed outside of California (OC), with 81% of these advertisements being placed by a SART entity. Both SART and non-SART entities showed a majority of their advertisements did not include a risk disclosure and did not meet the ASRM risk disclosure standards (Table 5.3). SART entities were more likely to include a risk disclosure in their advertisements than non-SART entities (15% vs. 5%) and this was a significant difference (P<.05) (Table 5.3).

Table 5.3. Comparison of SART and Non-SART Compliance in OC Advertisements

	SART	**Non-SART**
# Advertisements	246	56
% Advertisements Compliant	15% (38)	5% (3)
% Advertisements Non-Compliant	85% (208)	95% (53)

Risk Disclosure by Entities Subject to California Law

The third research question was whether there is a significant difference in the disclosure of risk in egg donor advertisements subject to California state law and those that are not. To complete this analysis, advertisements posted in California were compared to advertisements posted OC. Only those advertisements that listed benefits were included in this analysis. A total of 100 advertisements were posted in California, with 95 (95%) including financial compensation. Of the 335 OC advertisements, 329 (98%) listed benefits. A higher percentage of the California advertisements that included financial compensation also mentioned risks compared to OC advertisements (27% vs. 13%) and this was significant (P<.01) (Figure 5.3). All of the California advertisements that included a risk disclosure used the specific risk disclosure language provided in the California law (Cal. Health & Saf Code § 125325).

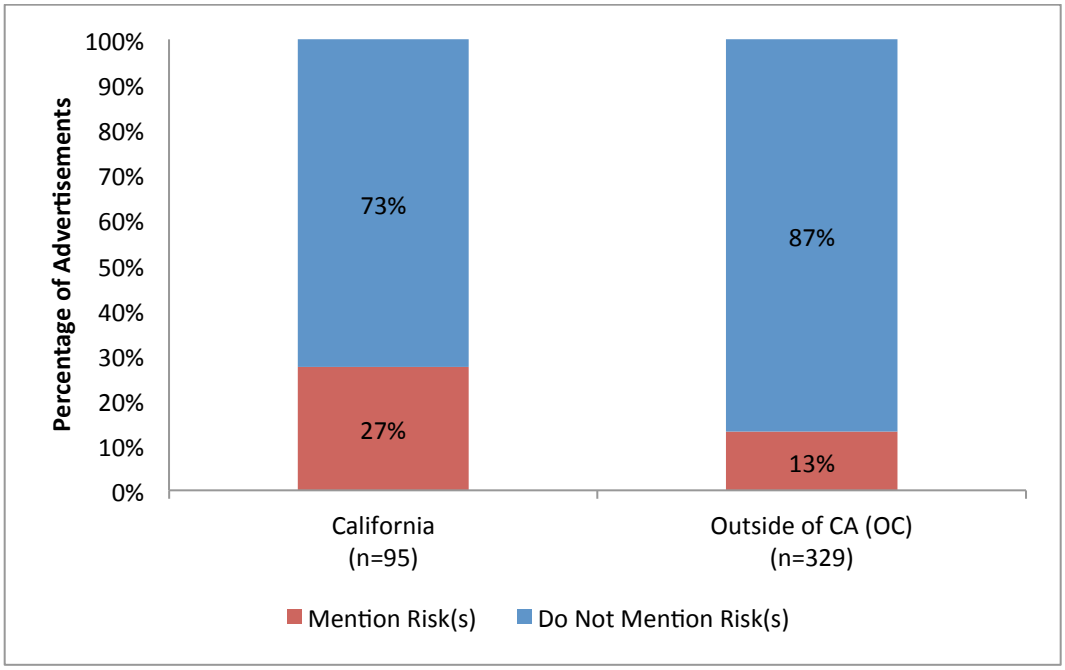


Figure 5.3. Comparison between California and OC Advertisements

In addition to this direct impact of the California law, the indirect influence of the law was analyzed. The indirect influence is described as the "halo effect" of the California law on advertisements placed by entities outside California. Regardless of whether the entity is California or OC, any advertisement posted OC is not subject to the requirements of the California law. There were a total of 304 OC advertisements placed by California and non-California entities that were compared. OC advertisements placed by California entities were significantly more likely to mention risk than OC advertisements placed by non-California entities (30% vs. 1%, P<.01) (Table 5.4). There were a total of 14 California entities, two of which included a risk disclosure in all of their advertisements.

Table 5.4. Influence of California Law on OC Advertisement Compliance

	CA Entities	Non-CA Entities
# OC Advertisements	132	172
% Advertisements Compliant	30% (39)	1% (2)
% Advertisements Non-Compliant	70% (93)	99% (170)

Limitations

The study is limited by the analysis of a single advertisement source at a single time period in November 2011. As was previously discussed in Chapter 4, other online classifieds were considered for the analysis but were not found to be reasonable representations of egg donor advertisements and therefore not viable sources for the advertisement sample. Based on a cursory review of Craigslist advertisements in May 2016, the number and the content of the advertisements was similar to what was found with the Craigslist advertisements found in November 2011 (Figure 5.4). Despite the lack of knowledge of how many egg donors are recruited from Craigslist, a snapshot in the spring compared to a fall sample collection shows that there is longevity in using Craigslist advertisements. Five years later and in a different season, Craigslist advertisements are still found the same. Current Craigslist advertisements are not only similar to Craigslist advertisements evaluated five years ago, but are also similar to advertisements found in current college newspapers (Figure 5.4).

Figure 5.4. Example of Craigslist Egg Donor Advertisement (April 2016)

A second limitation is with concern that a few advertisements are not found, given the coding mechanism employed only used the term "risk". The preliminary analysis that evaluated general and specific terms associated with risk (See Table 4.4 in Chapter 4) showed that none of the general terms (i.e. "side effect") were found within the text of the advertisements and the more specific terms (i.e. "injection") were determined to be associated with the burdens of egg donation and not the risks.

Lastly, the study is limited by the absence of studies that evaluate the effects of risk disclosure at the earliest stage of the recruitment process to determine if low risk disclosure at the advertisement level matters when ensuring informed consent by egg donors. This limitation was the motivation for the second part of this dissertation work that further evaluates the impact of early risk disclosure. The survey of female graduate students was designed to fill this gap of knowledge and provide insight into what effect,

if any, the inclusion of risk disclosure on recruitment advertisements has when a woman is considering whether or not to participate as an egg donor.

Despite these limitations, this Craigslist analysis is still a valuable contribution to the literature that evaluates the current landscape of egg donation recruitment in the U.S. There is a dearth of studies that specifically looks at the practices of risk disclosure at the earliest stage of recruitment by infertility clinics and egg donor agencies, and this study provides an important analysis using a reasonable representation of egg donor advertisements in the U.S. The results from this analysis are novel and show that risk disclosure in egg donor recruitment advertisements is rare. In addition, voluntary and formal regulations were found to have a relatively low impact on the disclosure of risk in egg donor advertisements. These results identify a strong need to address why there is such a low rate of risk disclosure on egg donor recruitment advertisements. This evaluation of Craigslist advertisements also shows the importance of exploring risk disclosure on advertisements and its association with a woman's likelihood to engage in the donation process. The survey analyses presented in Chapters 6-8 explore this issue and evaluate the importance of risk disclosure on advertisements. Combined with this Craigslist analysis, these quantitative analyses are beneficial, as future policies are evaluated and implemented to ensure potential egg donors are adequately informed before engaging in the egg donation process.

CHAPTER 6: RESEARCH METHODS –SURVEY OF FEMALE GRADUATE STUDENTS

Survey of Female Graduate Students

The survey on female graduate students aims to provide knowledge on the effects of risk disclosure at the earliest stage of the recruitment process to determine when, if ever, the disclosure of information on an advertisement influences a woman's intent to participate in the egg donation process. It was motivated by the results of the Craigslist analysis and the lack of studies that evaluated the possible impact of risk disclosure on the intent to participate in egg donation. The inclusion of various risk disclosures on advertisements is explored to evaluate its association with a woman's likelihood to engage in the donation process. This analysis can contribute to the development and implementation of future risk disclosure oversight.

Sample and Data Collection

Participants for the survey of female graduates came from three Georgia Universities: Emory University, Georgia Institute of Technology and the University of Georgia. This was a convenience sample but was also a reasonable representation of the demographic targeted by IVF clinic and egg donor agency recruitment advertisements (Kenney & McGowan, 2008; Sachs et al., 2010). Each school has a relatively diverse student background, enrolls students with above average SAT/ACT scores, and has a graduate program. To be included in the study, the respondent had to be female and she had to be currently enrolled in or a recent graduate of a graduate program. Graduate

programs were the focus given the typical graduate student is between the ages of 21 and 34 years old, which is the recommended age range for an egg donor noted by the ASRM guidelines (ASRM, 2009). The most recent data shows approximately 50.5% of U.S. masters students are younger than 30 years old and approximately 42% of U.S. doctoral students are between the ages of 26-30 and 31% are between 31-35 years old (NCES, 2007; NSF, 2013).

The ideal sampling frame for this survey would include all female graduate students at Emory, Georgia Tech and the University of Georgia. However, because no such comprehensive list of female graduate students is publicly available, a sample of 1,904 female graduate students was developed. Female graduate students were identified from the websites of graduate programs at the three Georgia Universities. For each school, the graduate programs were listed on the University website, with a corresponding graduate program website link. A list of the graduate programs searched for at each University is shown in Appendix A. Each graduate program website was visited and searched for a student directory of current graduate students. On those websites that included a publicly available list of graduate students, the contact information, including email, was collected for female students only. The gender of the students was identified using a picture provided on the graduate website or by searching for the student's name on public sites, such as LinkedIn or Facebook. Because it was expected that some graduate program websites might include students that have recently graduated, recent graduates were included in the study sample.

A total of 54 graduate program websites were searched from Emory, 62 graduate programs from the University of Georgia and 42 from Georgia Tech. These searches

resulted in the collection of contact information for 633 female graduate students from Emory, 900 students from the University of Georgia and 371 students from Georgia Tech. From the program websites that provided graduate student information, the Biological and Biomedical Sciences was the largest source of contact information from Emory (n=287 female graduate students) and constituted 45% of the Emory sample that received survey invitations. The program of Human Development and Family Sciences was the largest at the University of Georgia (n=106 female graduate students) and comprised 12% of the University of Georgia sample. The Psychology department was the largest at Georgia Tech (n=79 female graduate students) and was 21% of the Georgia Tech sample. Additional details on all program websites that provided female graduate student information are shown in Appendix A.

This sample of female graduate students is believed to be generally representative of the women who IVF clinics and egg donor agencies target when they advertise for egg donors in college newspapers. Egg donor recruitment advertisements are placed within the newspapers at the University of Georgia and Emory. Georgia Tech is the exception, as they do not allow the placement egg donor recruitment advertisements.

From the Craigslist analysis, advertisements listed ages between 18 and 33 years old, which includes the average age range of U.S. graduate students. The Craigslist analysis also showed that there was a significantly higher financial compensation offered to women who had a higher education or were pursuing an advanced degree, such as a Masters or PhD, which includes all of the women in this sample. A significantly higher financial compensation was also found on advertisements that noted preference for specific donor personality characteristics, which often included traits such as, “bright”,

"intelligent", "ambitious", and "self motivated". These terms correspond to the preference for donors with a higher education, as one would expect an individual pursuing an advanced degree or attending a "top university" to be "intelligent" and "ambitious". Additional details of the study sample and demographic variables are summarized in Table 6.1.

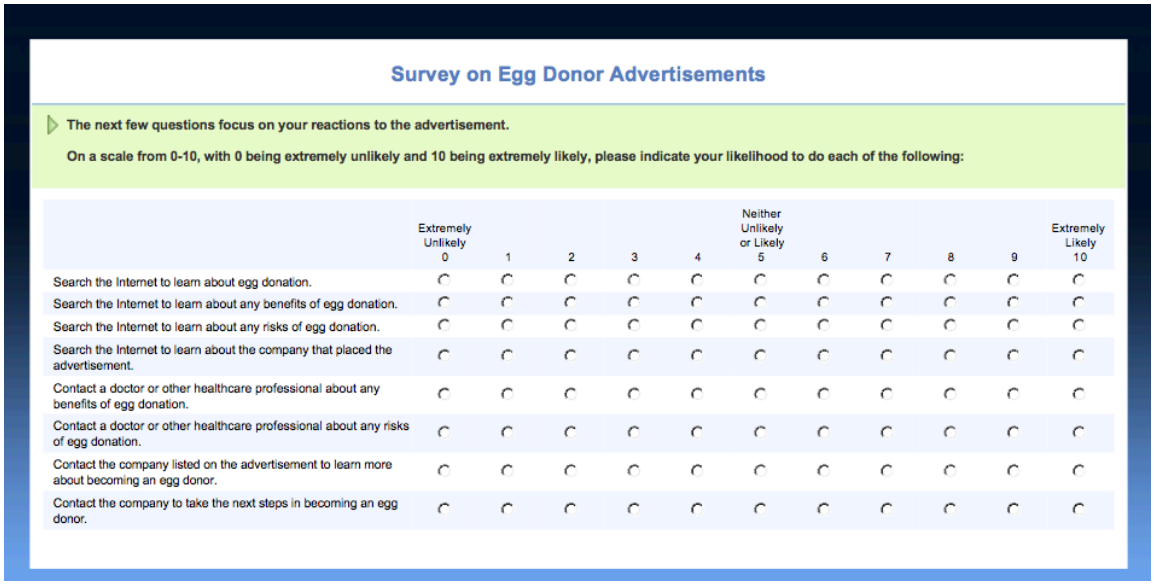
Table 6.1. Descriptive Statistics of Demographic Variables

Variable	*Obs.*	*Mean*	*Std. Dev.*	*Min*	*Max*	*Scale*
Demographic Questions						
Degree – No Specific	584	0.009	0.092	0	1	0=pursuing specific degree; 1=pursuing non-specific degree
Degree - Masters	584	0.139	0.346	0	1	0=not pursuing masters; 1=pursuing masters
Degree - Doctorate	584	0.834	0.372	0	1	0=not pursuing doctorate; 1=pursuing doctorate
Degree – Other Professional Degree	584	0.002	0.041	0	1	0=not pursuing other professional degree; 1=pursuing other professional degree
Degree - Other	584	0.017	0.130	0	1	0=not pursuing other degree; 1=pursuing other degree
Field - Agriculture	587	0.007	0.082	0	1	0=not in agriculture field; 1=in agriculture field
Field - Biology	587	0.334	0.472	0	1	0=not in biology field; 1=in biology field
Field - Engineering	587	0.012	0.109	0	1	0=not in engineering field; 1=in engineering field
Field - Health	587	0.026	0.158	0	1	0=not in health field; 1=in health field
Field – Physical Science	587	0.099	0.299	0	1	0=not in physical science field; 1=in physical science field
Field – Social Science	587	0.116	0.320	0	1	0=not in social science field; 1=in social science field
Field - Humanities	587	0.203	0.402	0	1	0=not in humanities field; 1=in humanities field
Field - Education	587	0.133	0.340	0	1	0=not in education field; 1=in education field
Field – Professional Field	587	0.003	0.058	0	1	0=not in professional field; 1=in professional field
Field - Psychology	587	0.015	0.123	0	1	0=not in psychology field; 1=in psychology field
Field - Other	587	0.060	0.237	0	1	0=not in other field; 1=in other field
Married	587	0.397	0.490	0	1	0=not married; 1=married
Children	587	0.104	0.380	0	1	0=no children; 1=has children
Age – Under 25	585	0.415	0.493	0	1	0=over 25 years old; 1=under 25 years old
Age – 26 to 30	585	0.382	0.487	0	1	0=not 26-30 years old; 1=26-30 years old
Age – 31 to 35	585	0.133	0.340	0	1	0=not 31-35 years old; 1=31-35 years old
Age – 36 to 40	585	0.041	0.199	0	1	0=not 36-40 years old; 1=36-40 years old
Age – 41 to 45	585	0.017	0.130	0	1	0=not 41-45 years old; 1=41-45 years old
Age – 46 to 50	585	0.007	0.082	0	1	0=not 46-50 years old; 1=46-50 years old
Age – 50 +	585	0.003	0.058	0	1	0=under 50 years old; 1=50+ years old
Emory	587	0.361	0.481	0	1	0=not Emory student; 1=Emory student
Georgia Tech	587	0.162	0.369	0	1	0=not GT student; 1=GT student
Georgia	587	0.477	0.500	0	1	0=not UGA student; 1=UGA student
Asian	623	0.124	0.339	0	1	0=not Asian; 1=Asian
Black	623	0.072	0.259	0	1	0=not Black; 1=Black

Hispanic	623	0.055	0.227	0	1	0=not Hispanic; 1=Hispanic
White	623	0.732	0.443	0	1	0=not White; 1=White
Minority	623	0.037	0.189	0	1	0=not Minority; 1=Minority
Religious	587	0.494	0.552	0	2	0=not religious; 1=religious
Protestant	253	0.482	0.501	0	1	0=not Protestant; 1=Protestant
Roman Catholic	253	0.206	0.405	0	1	0-not Roman Catholic; 1=Roman Catholic
Mormon	253	0.024	0.153	0	1	0=not Mormon; 1=Mormon
Orthodox	253	0.008	0.089	0	1	0=not Orthodox; 1=Orthodox
Jewish	253	0.067	0.251	0	1	0=not Jewish; 1=Jewish
Muslim	253	0.024	0.152	0	1	0=not Muslim; 1=Muslim
Buddhist	253	0.024	0.152	0	1	0=not Buddhist; 1=Buddhist
Hindu	253	0.028	0.164	0	1	0=not Hindu; 1=Hindu
Other Religion	253	0.138	0.346	0	1	0=not other Religion; 1=other Religion
Low Income - Family	584	0.315	0.465	0	1	0=not low family income; 1=low family income
Mid Income - Family	584	0.366	0.482	0	1	0=not middle family income; 1=middle family income
Upper Income – Family	584	0.318	0.466	0	1	0=not upper family income; 1=upper family income
$0-$19,999 – Individual	584	0.354	0.479	0	1	0=individual yearly income above $19,999; 1=individual yearly income $0-$19,999
$20K-$29,999 – Individual	584	0.437	0.496	0	1	0=individual yearly income not $20K-$29,999; 1=individual yearly income $20K-$29,999
$30K-$40K+ – Individual	584	0.209	0.407	0	1	0=individual yearly income not $30K-$40K+; 1=individual yearly income $30K-$40K+
Risk Averse	581	2.286	0.944	1	7	1=extremely unlikely to 7=extremely likely
Altruistic	572	3.734	0.832	0	4	0=never to 4=very often

Dependent Measures

The survey was designed to assess two dependent variables, in addition to several demographic measures. The first dependent variable is a woman's willingness to participate in the egg donation process. Respondents were asked to rate their willingness to participate in eight activities (Figure 6.1) that are likely steps to be taken by a woman considering donating her eggs. The activities range from completing a basic Internet search on egg donation to contacting the egg donation company to take the next steps in becoming an egg donor. The woman's willingness was measured using a likelihood scale from 0-10, with 0 being *"extremely unlikely"* and 10 being *"extremely likely"*. A survey screen shot of these questions related to a woman's willingness is shown in Figure 6.1.



Survey on Egg Donor Advertisements

The next few questions focus on your reactions to the advertisement.

On a scale from 0-10, with 0 being extremely unlikely and 10 being extremely likely, please indicate your likelihood to do each of the following:

	Extremely Unlikely 0	1	2	3	4	Neither Unlikely or Likely 5	6	7	8	9	Extremely Likely 10
Search the Internet to learn about egg donation.											
Search the Internet to learn about any benefits of egg donation.											
Search the Internet to learn about any risks of egg donation.											
Search the Internet to learn about the company that placed the advertisement.											
Contact a doctor or other healthcare professional about any benefits of egg donation.											
Contact a doctor or other healthcare professional about any risks of egg donation.											
Contact the company listed on the advertisement to learn more about becoming an egg donor.											
Contact the company to take the next steps in becoming an egg donor.											

Figure 6.1. A screen shot of the survey questions related to a woman's willingness to engage in the donation process.

It was recognized that some women would not be willing to participate in any activities related to becoming an egg donor, regardless of the compensation or risk disclosure included on the advertisement. To account for this, the survey included a hypothetical scenario that aimed to have the woman remove herself from her own situation and experiences and answer questions with a different perspective. The hypothetical scenario presented to each respondent was the following: *"Now assume you are a full-time college student with a part-time job that does not cover all of your monthly expenses. You come across the advertisement you were first shown [mock advertisement]."* The respondents were asked to answer the same likelihood questions previously described, using the same likelihood scale from 0-10 (Figure 6.1).

The second dependent variable assessed in this survey was the respondent's perception of the risks associated with egg donation. One measure of how the respondent perceived the risks of egg donation was through the assessment of how likely the respondent was to seek additional information. This was captured by asking women to

rate their likelihood of searching the Internet to learn more about the risks of egg donation and their likelihood of contacting a doctor or healthcare professional about any risks of egg donation. These questions are included in the original list of likelihood questions that respondents are asked to answer on a scale of 0-10, with 0 being *"extremely unlikely"* and 10 being *"extremely likely"* (Figure 6.1).

The perception of risk was also measured by assessing the woman's concern about the risks associated with egg donation. To assess concern, the respondents were presented with a second hypothetical scenario: *"Assume you are seriously considering donating your eggs."* Asking this question with a hypothetical scenario allowed respondents to think about how the risks could directly affect them if they were to proceed as a potential donor. A respondent was asked about her level of concern for any physical or psychological risks she might incur from donating, if she were an egg donor. Concern was measured on a scale of 0-10, with 0 being *"not at all concerned"* and 10 being *"extremely concerned"* (Figure 6.2).

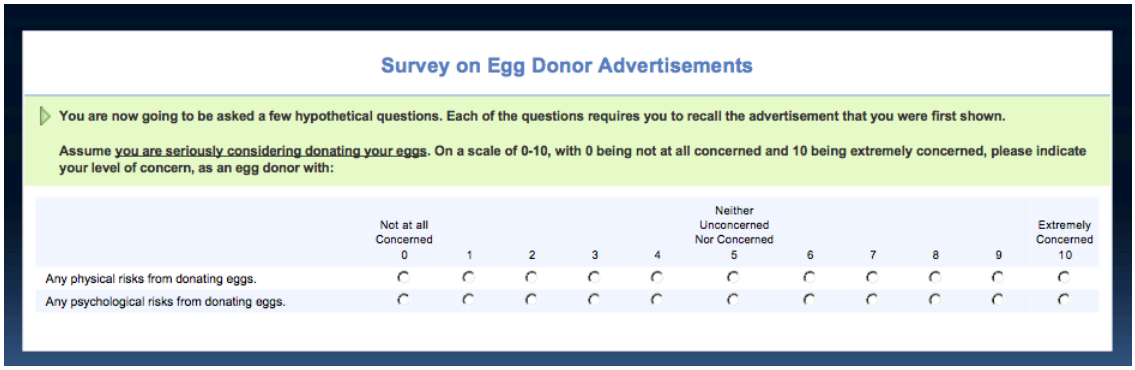


Figure 6.2. A screen shot of the survey questions related to a woman's concern with any physical and psychological risks associated with egg donation.

Additional characteristics were included in the survey (Appendix B). These included demographic characteristics along with measures for risk aversion and altruistic behavior. The inclusion of risk aversion questions, shown in Appendix B, aimed to

operationalize how some individuals may show a low likelihood to participate in egg donation because they perceive egg donation to be risky and, in general, they are averse to engaging in risky behavior. Questions that measure the respondents' altruistic behavior were also included to provide further insight into how respondents view the act of egg donation. The specific altruistic questions are shown in Appendix B and are from the Adapted Self-Report Altruism Scale that was designed to measure the broad based trait of altruism (Rushton et al., 1981). The full Self-Report Altruism Scale consisted of 20 specific behaviors and was found to predict particular behaviors, such as completing an organ-donor card (Rushton et al., 1981). For the purposes of my research, the five questions included in the survey of female graduate students were behaviors that related most to the act of donating.

Altruism was measured on a scale from 0-4, with 0 indicating the respondent never engaged in behaviors such as giving money to charity or donating blood and 4 indicating the respondent engaged in the activities very often (Rushton et al., 1981). The respondents were asked how often they exhibited five different altruistic behaviors and the average was taken from the five questions to develop a single altruistic variable for each respondent. This was similar to the original scoring method utilized by Rushton et al. (1981) that summed the item ratings together, as each behavior was considered equal in importance in assessing whether someone exhibited an altruistic trait. The higher summed score indicated greater altruism. The questions and scales for additional characteristics evaluated in the survey are shown in Appendix B.

Independent Variables

This survey uses a 3 (category of risk disclosure) x 2 (level of monetary compensation), between subjects, completely randomized factorial design. Both the level of risk and monetary compensation were manipulated using a mock egg donor recruitment advertisement that was created specifically for this study. The advertisements were created using Adobe InDesign to make the mock advertisements appear professional. The three categories of risk include: no risk disclosure, general risk disclosure, and specific risk disclosure.

A mock advertisement with no risk disclosure is the first category of risk. The general risk disclosure acknowledges that there are potential risks associated with egg donation and recommends that women consult with their doctor about these risks (*"There are risks associated with egg donation. Please consult your doctor."*). The specific risk disclosure also acknowledges the potential risks of egg donation but includes more detail on what the particular risks may be. Potential donors are again advised to consult with their doctor about the risks (*"There are risks associated with egg donation, including: bleeding, infection, and ovarian hyperstimulation syndrome. Egg donation may also be associated with an increased risk of developing cancer. Please consult your doctor."*).

It is common for recruitment advertisements to include monetary compensation without including a risk disclosure, making the mock advertisements with no risk disclosure comparable to the typical online egg donor recruitment advertisements (Alberta et al, 2014). The Craigslist analysis showed that a majority (84%) of advertisements in the sample did not include a risk disclosure and of the ones that did (16%), all but one used the specific risk disclosure language required by the California

law (Alberta et al, 2014). Therefore, the general risk disclosure was developed to resemble the language of the risk disclosure provided by the California law (Cal. Health & Saf Code § 125325). The California risk disclosure notes, "There may be risks associated with human egg donation" and states "consultation with your doctor prior to entering into a donor contract is advised." The specific risk disclosure expands on the California risk disclosure language by including the additional details on the particular risks.

The monetary compensation was also manipulated on the mock egg donor recruitment advertisement. There were two levels of monetary compensation: $5,000 and $10,000. The $5,000 level was chosen because it is the maximum compensation that the ASRM ethical guidelines consider appropriate for egg donors (ASRM, 2007). The $10,000 compensation can be considered the "high" compensation level. The ASRM ethical guidelines note that any compensation above $5,000 requires justification and payments above $10,000 are not deemed appropriate (ASRM, 2007).

The Survey and Advertisements

The online survey is organized into two main parts. The respondent was shown a mock egg donor recruitment advertisement that was designed after egg donor advertisements currently found in college newspapers. After the advertisement was shown to the respondent, the respondent was asked a series of questions that relate to their reaction to the advertisement. These questions have been outlined above (see Table 6.3) and a complete version of the survey is shown in Appendix C. The survey took between 5-10 minutes for respondents to complete.

There were six different versions of the advertisement, randomized among the respondents. Each advertisement had the same general layout, images, and basic information about the donation process, the benefits, and the type of donor that the entity was looking for. The fictional entity "placing" the advertisement was the same for each advertisement. As noted previously, variations in the advertisements used a 3 x 2 factorial design. The level of monetary compensation listed on the advertisement varied between $5,000 and $10,000 and the level of risk listed on the advertisement varied between no risk disclosure, a general risk disclosure statement, or a specific risk disclosure that mentioned the particular risks of egg donation. The advertisements are shown in Appendix D.

A pilot study was completed the week of September 28, 2015 with 15 female respondents. The women were family and friends that had not seen or read any part of the survey prior to completing it for the pilot study. Each participant was sent a customized link to the survey, completed the online survey, and then sent an email to me with comments or any issues that they encountered while completing the survey. The majority of the respondents' comments were focused on formatting issues with how answers were entered into the survey system and the page breaks within the survey that impacted the flow of how questions were answered. The appropriate format changes were made to the survey to resolve these issues. There was no confusion communicated from respondents with regards to question content or meaning.

The finalized survey was administered to the female graduate sample from October 19, 2015 – December 1, 2015. Emails were sent to each potential participant, inviting them to complete the online survey via a customized link permitting direct access

to the survey. Non-respondents received three customized reminders over the course of 6 weeks to help increase participation. In addition, four $25 Starbucks gift cards were awarded to randomly selected survey participants, as another means for increasing survey participation. Each email sent to participants included an option to opt out of any future emails. Copies of the initial email invitation and a reminder email are shown in Appendix E.

A statistical power analysis was performed for sample size estimation. Each recruitment advertisement was paired with each of the two payment levels, yielding a total of 6 treatment groups. The power analysis indicated that between 26 and 46 respondents per treatment group (n=156-278) were necessary to have power of 0.80 to detect small to medium main and interaction effects with a significance level of 0.05. These results indicated that a minimum response rate between 10%-15% was sufficient for completing the analyses.

Of the 1,904 female graduate students that were invited to participate in the survey, 102 email addresses were unknown (n=8), non-existent (n=64) or an "other" problem (n=30). This resulted in a total of 1,802 applicable invites. There were 577 respondents that completed the entire survey, giving a response rate of 32%. An additional 50 female students answered at least one question and were included, which increased the total respondent count to 627 and increased the response rate to 34.8%. This exceeds the minimum response rate between 10%-15% that was deemed necessary for completing the analyses and detecting small to medium main and interaction effects with a significance level of 0.05.

To help address the potential nonresponse bias that could exist, a non-respondent analysis was completed. Response rates across the individual universities were compared (Table 6.2) and showed that Emory and the University of Georgia had similar response rates at approximately 30%. The Georgia Tech response rate (24.5%) was significantly smaller ($P<0.05$) than Emory's but not significantly different from the University of Georgia. Although the Georgia Tech graduate program is large, the graduate program websites were less likely to provide a public list of graduate students within the program compared to the websites observed from Emory and the University of Georgia. This accounted for the smaller number of survey invitations sent to Georgia Tech female graduate students.

Table 6.2. University Survey Invitations and Response Rates

University	*Total Invited (n=)*	*Total Completed (n=)*	*Response Rate (%)*
Emory	633	213	33.65%
Georgia Tech	371	91	24.53%
University of Georgia	900	273	30.33%

Race demographics of the sample graduate populations at each university were also evaluated and compared to the survey responses by race (Table 6.3). The sample of Emory graduate students showed a smaller percent of Asian students compared to the percent of survey respondents that were Asian (7.1% vs. 12.4%, respectively). The sample of Georgia Tech graduate students showed a slightly lower percent of Black, Hispanic and Minority students compared to the overall percent of respondents of those particular races. However, overall, the survey respondents are a reasonable representation of the schools' sample student body, with regards to race.

Table 6.3. Sample Graduate Population Race Demographics by University Compared to Survey Response Demographics

Race Demographics	*Emory*	*UGA*	*GT*	*Survey*
Asian	7.1%	14.3%	23.1%	12.4%
Black or African American	7.1%	9.6%	3.0%	7.2%
Hispanic	8.0%	5.0%	3.2%	5.5%
White	81.6%	75.4%	73.7%	73.2%
Minority	3.3%	5.0%	2.1%	3.7%

UGA: University of Georgia
GT: Georgia Tech
NOTE: Percentages do not equal 100% for each school because students could select one or more races.

CHAPTER 7: IMPACT OF EARLY RISK DISCLOSURE – FEMALE GRADUATE SURVEY INITIAL RESPONSE ANALYSIS

Introduction

The results from the survey on female graduate students provide insight on the effects of various levels of risk disclosure at the earliest stage of the recruitment process. Specifically, the survey aims to evaluate the impact that risk disclosure has on how potential egg donors consider and understand the risks of the egg donation process. For the purposes of this research, *impact* is measured with two dependent variables: willingness to participate and the perception of risks.

The results of the survey on female graduate students are divided into two chapters. This chapter focuses on the women's initial response to the questions related to their willingness to participate as egg donors after observing the mock advertisement. The following chapter evaluates how, if at all, the responses change after the women consider a hypothetical scenario that asks a woman to imagine herself as a full time graduate student with a part-time job but unable to cover her monthly expenses. The results from both the initial and hypothetical responses provide valuable insight into the ethical and policy debates over whether risk disclosure at the advertisement level matters in the recruitment process of potential egg donors.

The structure of the initial analysis starts with a series of analyses that evaluate the impact of risk disclosure and monetary compensation. For this study, *impact* was measured in terms of a woman's willingness to participate in a series of activities related to egg donation. Each analysis is completed in relation to risk disclosure and monetary

compensation. Additional analyses on willingness to participate are completed on two activities in particular, contacting the doctor about the risks of egg donation and contacting the company. The final analysis includes regression models that examine to what extent the monetary compensation listed on an advertisement influences the potential donor's perception or evaluation of the risks associated with the donation process.

Screening Questions

Awareness and knowledge of egg donation is an area that has not been widely researched in the United States. Therefore, at the beginning of the survey (shown in Appendix C), and prior to observing the mock advertisement, respondents were asked a series of screening questions to provide insight into their prior exposure to egg donation (Table 7.1). A majority (90%) of the women surveyed had read or heard about egg donation and just over half (58%) had seen an egg donor recruitment advertisement prior to completing the survey (Table 7.1).

While not a majority, a notable percentage (39%) of the women surveyed had considered donating their eggs prior to completing the survey (Table 7.1). Few respondents (8%) knew someone who had donated her eggs and even fewer (1%) had actually donated eggs (Table 7.1). The results from these screening questions show that a majority of female graduate students were aware of egg donation and had seen advertisements for egg donation but very few had actually engaged in the process of donating their eggs.

Table 7.1. Survey Screening Questions Prior to Observing Mock Advertisement

Question	Yes	No
1. Have you read or heard about egg donation for assisted reproduction?	556 (90%)	64 (10%)
2. Have you seen or heard an egg donor recruitment advertisement?	359 (58%)	261 (42%)
3. Have you considered donating your eggs?	242 (39%)	378 (61%)
4. Have you donated your eggs?	6 (1%)	614 (99%)
5. Do you know someone who has donated her eggs?	52 (8%)	568 (92%)

Willingness to Participate in Activities Related to Becoming an Egg Donor

The dependent variable used to measure the impact of risk disclosure and monetary compensation was the respondent's willingness to participate in a series of activities related to becoming an egg donor. This was examined using a series of analyses. First, a woman's likelihood to participate in the series of activities related to egg donation was evaluated with respect to the type of risk disclosure they observed then with respect to the compensation listed on their advertisement.

Willingness to Participate and Type of Risk Disclosure

The first analysis examined if there was a significant association between the risk disclosure included on the advertisement and the woman's likelihood of participating in a series of activities related to the egg donation process (Table 7.2). For these questions, likelihood was measured on a 0-10 scale, with 0 being "*extremely unlikely*" and 10 being "*extremely likely*". The mean likelihood to participate in each activity is presented in terms of the risk disclosure that was included on the advertisement: no risk, general risk, or specific risk (Table 7.2).

Two additional variables were constructed for this analysis. An additional risk disclosure category was created, *Any Risk,* which included all advertisements that listed a general or specific risk disclosure. The general risk disclosure acknowledged potential risks associated with egg donation and the specific risk disclosure acknowledged potential risks and also included details on what the potential risks could entail. Combining these two risk categories allowed for a comparison between advertisements with no risk disclosure and advertisements that had some level of risk disclosure.

The second constructed variable, *Contact the company,* is a binary variable that includes the original variables *Contact the company to learn more about becoming an egg donor* and *Contact the company to become an egg donor*. If a respondent answered 0-5 (*extremely unlikely* to *neither unlikely or likely*) for contacting the company to learn more or become an egg donor, the respondent was coded as not likely to contact the company. If a woman answered 6-10 (*extremely likely*) to contact the company to learn more or become an egg donor, she was coded as likely to contact the company.

Previous literature has discussed the importance of disclosing associated risks before potential donors contact the company, assuming some individuals decide to participate before they view an informed consent document (Klitzman et al., 2008; Strong, 2001). This idea is rooted in the "anchoring heuristic" theory presented by Kahneman and Tversky (1979) that describes how the initial information presented on an advertisement, for example, establishes the framework that influences how the individual processes and weighs information that could impact subsequent decisions. The constructed variable, *Contact the company,* allows for a clear distinction between the likelihood a respondent would contact the company and the likelihood a respondent

would not contact the company. In addition, the two original variables were highly correlated (0.70) and testing for robustness showed results were generally similar when constructing the new variable, *Contact the company*.

Table 7.2. Mean Likelihood to Participate by Type of Risk Disclosure

Likelihood to:	*No Risk N=191*	*General Risk N=200*	*Specific Risk N=192*	*Any Risk N=392*
Search the Internet to learn about egg donation	5.55	6.01	5.88	5.95
Search the Internet to learn about any benefits of egg donation	5.29	5.27	5.34	5.31
Search the Internet to learn about any risks of egg donation	6.74	7.11	7.34	7.22
Search the Internet to learn about the company that placed the advertisement	5.68	5.84	5.73	5.78
Contact a doctor or other healthcare professional about benefits of egg donation	3.73	3.41	3.64	3.52
Contact a doctor or other healthcare professional about risks of egg donation	3.94	3.78	4.21	3.99
Contact the company listed on the advertisement to learn more information about becoming an egg donor	3.55	3.34	3.68	3.51
Contact the company to take the next steps in becoming an egg donor	3.25	3.05	3.11	3.08
Contact the company	3.60	3.45	3.82	3.63

NOTE: 0-10 scale, with 0 being extremely unlikely and 10 being extremely likely.
NOTE: *Any Risk* is a combination of advertisements that listed general or specific risk disclosures.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

Table 7.2 showed no significant difference ($P<0.05$) for any of the activities between the mean likelihood of women who saw an advertisement with no risk and the mean likelihood of women who viewed an advertisement with any risk disclosure. In fact, for activities that involved searching the Internet, women who viewed an advertisement with a general or specific risk disclosure showed a higher mean likelihood of engaging in the activity than women who received an advertisement with no risk disclosure (Table 7.2), although these differences in mean likelihood were not significant. The list of activities shown in Table 7.2 is ordered according to the level of engagement and commitment required from the potential egg donor. A decrease in mean likelihood is

observed when actions escalate from searching the Internet to requiring the potential donor to contact a doctor or a company (Table 7.2). This is consistent across all levels of risk disclosure.

The likelihood variables in Table 7.2 were recoded into binary variables for Table 7.3. Respondents who answered 0-5 ("*extremely unlikely*" to "*neither unlikely or likely*") were coded as not likely to participate in the activity and respondents who answered 6-10 ("*extremely likely*") were coded as likely to participate. Similar to Table 7.2, as the activities became more serious and more involved for the potential egg donor, the likelihood of engaging in the activity decreased (Table 7.3). Using no risk disclosure as an example, 43% of women who viewed an advertisement with no risk were likely to search the Internet to learn more about egg donation, with 15% likely to contact the company to become an egg donor (P=0.02). This observation held true across all levels of risk disclosure. Significant differences in the percent of women likely to engage in an activity were only found between the different risk disclosures when women considered *contacting the company to become an egg donor* (Table 7.3).

Table 7.3. Likelihood to Participate by Type of Risk Disclosure

Likelihood to:	*No Risk* *N=191*	*General Risk* *N=200*	***Gen Risk-No Risk***	*Specific Risk* *N=192*	***Spec Risk-No Risk***	*Any Risk* *N=392*	***Any Risk-No Risk***
Search the Internet to learn about egg donation	43%	51%	+8%	49%	+6%	50%	+7%
Search the Internet to learn about any benefits of egg donation	37%	38%	+1%	40%	+1%	39%	+2%
Search the Internet to learn about any risks of egg donation	62%	68%	+6%	67%	+6%	68%	+6%
Search the Internet to learn about the company that placed the advertisement	45%	48%	+3%	44%	-1%	46%	+1%
Contact a doctor or other healthcare professional about benefits of egg donation	14%	14%	0%	14%	0%	14%	0%
Contact a doctor or other healthcare professional about risks of egg donation	21%	21%	0%	24%	+3%	22%	+1%
Contact the company listed on the advertisement to learn more information about becoming an egg donor	17%	14%	-3%	17%	0%	15%	-2%
Contact the company to take the next steps in becoming an egg donor	15%	7%	-8%**	12%	-3%	9%	-6%*
Contact the Company	18%	15%	-3%	19%	+1%	17%	-1%

*Significant (P<0.10) **Significant (P<0.05)
NOTE: Variables recoded to be binary. Unlikely=0-5 and Likely= 6-10.
NOTE: *Any Risk* is a combination of advertisements that listed general or specific risk disclosures.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

It was predicted (Hypothesis H4.1) that women who viewed an advertisement that included a risk disclosure would show a decreased willingness to participate as egg donors compared to women who viewed an advertisement with no risk disclosure. The results from Table 7.2 with the mean likelihoods showed that in general, the type of risk disclosure observed on the mock advertisement was not significantly associated with the likelihood that the respondent would participate in the various activities related to the

process of becoming an egg donor. However, Table 7.3 presented the percent likelihood using the binary variables and found women were significantly more likely to contact the company to become an egg donor when they viewed an advertisement with no risk disclosure compared to an advertisement with a general risk disclosure (15% vs. 7%, P=0.03) and any risk disclosure (15% vs. 9%, P=0.07). These results show that risk disclosure on its own is not significantly associated with a woman's likelihood to engage in the activities related to becoming an egg donor until the activity becomes more involved for the respondent.

It was also predicted (Hypothesis H4.2) that women who viewed an advertisement with a risk disclosure would be more likely than women who viewed an advertisement with no risk disclosure to research or ask questions about the egg donation procedure. The results for these activities, shown in Table 7.3, did not reach significance levels to support this hypothesis. However the results offered suggestive support for the hypothesis, as the percent of women likely to search the Internet or contact a doctor about the risks of egg donation was greater for women who viewed any risk disclosure compared to women who viewed no risk disclosure (Table 7.3). A decrease was observed in the percent of women likely to contact the company to learn more or become an egg donor when shown an advertisement with any risk disclosure compared to no risk disclosure (Table 7.3). The lower percent of women willing to engage in contacting the company was not significant.

Willingness to Participate and Monetary Compensation

The second analysis that examined a woman's willingness to participate evaluated how, if at all, the inclusion of monetary compensation on an egg donor recruitment advertisement affected a potential donor's willingness to participate in the donation process. The impact of monetary compensation was evaluated using the same series of likelihood questions, as seen in the risk disclosure analysis (Table 7.3). Likelihood was measured on a 0-10 scale, with 0 being *"extremely unlikely"* and 10 being *"extremely likely"*. Women's likelihood to participate in each activity is presented in Table 7.4 by the level of monetary compensation that was included on the advertisement: $5,000 or $10,000.

Table 7.4. Mean Likelihood to Participate by Monetary Compensation

Likelihood to:	*$5,000 (n=273)*	*$10,000 (n=311)*	*Significant Difference*
Search the Internet to learn about egg donation	5.69	5.92	
Search the Internet to learn about any benefits of egg donation	5.24	5.35	
Search the Internet to learn about any risks of egg donation	6.99	7.13	
Search the Internet to learn about the company that placed the advertisement	5.53	5.94	
Contact a doctor or other healthcare professional about benefits of egg donation	3.53	3.64	
Contact a doctor or other healthcare professional about risks of egg donation	3.81	4.12	
Contact the company listed on the advertisement to learn more information about becoming an egg donor	3.31	3.71	*
Contact the company to take the next steps in becoming an egg donor	2.93	3.32	*
Contact the company	3.39	3.82	*

*Significant (P<0.10)
NOTE: 0-10 scale, with 0 being extremely unlikely and 10 being extremely likely.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

It was predicted (Hypothesis H5.1) that women who viewed an advertisement listing $10,000 compensation would show a higher willingness to participate as an egg donor than women who viewed an advertisement with $5,000. Table 12 shows that for all

activities listed, the mean likelihood that women would participate in the activity was higher when the women observed an advertisement that listed $10,000 compared to $5,000. The three instances where this difference in mean likelihood was significant (P<0.10) were the likelihood that women would contact the company to learn more (P=0.07), contact the company to become an egg donor (P=0.06), and contact the company (constructed variable) (P=0.06). Therefore, monetary compensation on its own had a significant association with the likelihood that a woman would demonstrate higher levels of willingness to engage in the steps preceding donation.

Just as was done in the risk disclosure analysis, likelihood variables were recoded into binary variables for Table 7.5. Respondents who answered 0-5 ("*extremely unlikely*" to "*neither unlikely or likely*") were coded as not likely to participate in the activity and respondents who answered 6-10 ("*extremely likely*") were coded as likely to participate.

Table 7.5. Likelihood to Participate by Monetary Compensation

Likelihood to:	*$5,000 (n=273)*	*$10,000 (n=311)*	*$10K - $5K*
Search the Internet to learn about egg donation	45%	50%	+5%
Search the Internet to learn about any benefits of egg donation	38%	39%	+1%
Search the Internet to learn about any risks of egg donation	65%	66%	+1%
Search the Internet to learn about the company that placed the advertisement	44%	47%	+3%
Contact a doctor or other healthcare professional about benefits of egg donation	11%	16%	+5%
Contact a doctor or other healthcare professional about risks of egg donation	19%	25%	+6%
Contact the company listed on the advertisement to learn more information about becoming an egg donor	15%	17%	+2%
Contact the company to take the next steps in becoming an egg donor	10%	13%	+3%
Contact Company	16%	19%	+3%

NOTE: Variables recoded to be binary. Unlikely=0-5 and Likely= 6-10.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

The likelihood that a woman would engage in any of the activities listed was higher when the woman viewed an advertisement that listed $10,000 compensation compared to $5,000 (Table 7.5). However, looking at likelihood as a binary variable showed no significant difference in the percent likelihoods for any of the activities listed, with all percent differences between $10,000 and $5,000 being 6% or less. In general, respondents appeared to be more likely to engage in activities that involved searching the Internet for egg donation information than speaking with a doctor (Table 7.5). Once the activity required the woman to contact a doctor or the company, the enhanced engagement with the process showed a significant decrease in likelihood ($P<0.05$). As an example, 65% of women who received an advertisement that listed $5,000 were likely to search the Internet to learn about the risks of egg donation but only 19% of these women were likely to contact a doctor to discuss the risks ($P<0.001$) (Table 7.5).

Willingness to Contact a Doctor about the Risks of Egg Donation

Additional analyses on a woman's willingness to participate focused on two likelihood variables believed to be primary indicators of a respondent's consideration and willingness to participate as an egg donor. They are also the activities that can be considered a higher level of engagement for the potential egg donor. These variables included: *Contact a doctor about the risks of egg donation* and *Contact the company.* Each variable was evaluated with respect to specific respondent demographic characteristics, to include: age, race/ethnicity, and economic status (family and individual). Additional analyses considered how a woman's willingness to engage in each primary activity varied on two dimensions, looking at risk and monetary compensation

simultaneously. Contacting a doctor about the risks of egg donation was considered, for this study, to require a lower level of engagement or commitment from a potential donor than contacting the company and was therefore evaluated first.

Likelihood to Contact the Doctor about Risks of Egg Donation: Full Scale

The full scale of the variable, *Contact the doctor about the risks of egg donation* is presented in Appendix F and showed that 30-45% of women were "*extremely unlikely*" to contact the doctor about risks, regardless of the risk disclosure or monetary compensation listed on the advertisement. This was followed by approximately 15% of women who noted it was "*neither unlikely nor likely*" (Appendix F).

Likelihood to Contact Doctor about Risks and Age

Starting with the respondent's age, the results showed no significant association between risk disclosure and likelihood of contacting the doctor about the risks of egg donation in relation to a woman's age (Tables 7.6). In general, women between 26-35 years showed some variation in likelihood across the different risk disclosures, although these differences were not significant ($P<0.05$). The likelihood that women between 18-25 years old would contact a doctor about the risks remained consistent at 26%, regardless of the risk disclosure observed (Table 7.6).

Table 7.6. Likelihood to Contact Doctor about Risks by Type of Risk Disclosure and Age

Age:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Under 18-25 years old	26%	76	26%	90	26%	77	26%	167
26-30 years old	18%	78	21%	71	27%	74	24%	145
31-35 years old	21%	28	14%	21	14%	28	14%	49
36-40 years old	17%	6	0	10	13%	8	6%	18

Unlike risk disclosure, monetary compensation did show a significant association with a woman's likelihood to contact a doctor about risks for women 26-30 years old (Table 7.7). The likelihood that a woman 26-30 years old would contact the doctor about the risks was significantly ($P<0.10$) higher when a woman viewed an advertisement with $10,000 compensation compared to $5,000 (27% vs. 15%, $P=0.08$) (Table 7.7). Women 25 years old and younger showed the greatest likelihood to contact the doctor about risks when advertisements listed $5,000 compensation or $10,000 (Table 7.7).

Table 7.7. Likelihood to Contact Doctor about Risks by Monetary Compensation and Age

Age:	*Five Thousand*		*Ten Thousand*	
	% Likely *#Respon.*		*% Likely* *#Respon.*	
Under 18-25 years old	24%	124	28%	119
26-30 years old	15%	98	27%	125
31-35 years old	10%	29	21%	48
36-40 years old	17%	12	0	12

Likelihood to Contact Doctor about Risks and Race

Risk disclosure did not have a significant association with the respondent's race and likelihood to contact a doctor about the risks of egg donation. In general, black and other minority women (i.e. American Indian, Alaska Native or Native Hawaiian) showed the greatest likelihood to contact a doctor about the risks of egg donation, compared to women of another race, when they observed an advertisement with no risk disclosure

(Table 7.8). This was also true for advertisements that listed a general risk disclosure (Table 7.8).

Table 7.8. Likelihood to Contact Doctor about Risks by Type of Risk Disclosure and Race

Race:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Asian	15%	26	18%	22	21%	28	20%	50
Black	25%	16	36%	14	20%	15	28%	29
Hispanic	14%	7	0	10	47%	17	30%	27
Other Minority	33%	6	25%	8	22%	9	24%	17
White	22%	147	22%	163	23%	143	22%	306

Similar to risk disclosure, monetary compensation did not have a significant association with women of different races and their likelihood to contact the doctor about the risks of egg donation. Women who viewed an advertisement that listed $10,000 compensation, regardless of their race, showed a higher likelihood to contact the doctor than women who viewed an advertisement that listed $5,000 (Table 7.9). None of these differences was significant. Asian, Black and White women showed similar likelihoods to contact the doctor about risks when they viewed advertisements that listed $5,000 and advertisements that listed $10,000 (Table 7.9). This indicated that among these three races, monetary compensation did not have a stronger association with one race over another.

Table 7.9. Likelihood to Contact Doctor about Risks by Monetary Compensation and Race

Race:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Asian	14%	36	23%	40
Black	24%	17	29%	28
Hispanic	25%	16	28%	18
Other Minority	19%	11	33%	12
White	19%	220	26%	233

Likelihood to Contact Doctor about Risks and Family Economic Status

The economic status of the respondent's family and the likelihood that the respondent would contact a doctor about risks were significantly associated with the risk disclosure on the advertisement (Table 7.10). Specifically, women from families of upper economic status were significantly more likely to contact the doctor about risks when they viewed an advertisement with no risk disclosure compared to an advertisement with a general risk disclosure (31% vs. 14%, P=0.05) and any risk disclosure (31% vs. 18%, P=0.06). Significant differences in likelihood were not found for women from a family of low or middle economic status (Table 7.10). Therefore, risk disclosure was found to only be associated with the likelihood that women from upper class families would contact the doctor about the risks of egg donation.

Table 7.10. Likelihood to Contact Doctor about Risks by Type of Risk Disclosure and Family Economic Status

Family Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Low Income	21%	57	31%	61	31%	65	31%	126
Middle Income	15%	78	20%	65	17%	71	18%	136
Upper Income	31%	55	14%	73	25%	57	18%	130

Monetary compensation was also found to have a significant association with a woman's family economic status and her likelihood to contact a doctor about the risks of egg donation (Table 7.11). Specifically, the likelihood that a woman from a family of low economic status would contact the doctor about the risks was significantly higher when she viewed an advertisement with $10,000 compensation compared to $5,000 (35% vs. 19%, P=0.05) (Table 7.11). In addition, women who viewed an advertisement that listed $10,000 were significantly more likely to contact the doctor about risks when they came

from a family of low economic status compared to a family middle economic status (35% vs. 15%, P=0.0003) (Table 7.11).

Table 7.11. Likelihood to Contact Doctor about Risks by Monetary Compensation and Family Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Low Income	19%	81	35%	102
Middle Income	19%	103	15%	111
Upper Income	19%	88	25%	97

Likelihood to Contact the Doctor about Risks and Individual Economic Status

Risk disclosure had a significant (P<0.10) association with the likelihood that women would contact a doctor with regard to individual economic status, specifically for women who noted a yearly income of $30,000-$40,000+ (Table 7.12). The likelihood that women with a yearly income of $30,000-$40,000+ would contact the doctor about risks was significantly lower when they viewed an advertisement with no risk disclosure compared to an advertisement with a general risk disclosure (7% vs. 24%, P=0.09). When women viewed an advertisement with no risk disclosure, they were significantly more likely to contact the doctor when they noted a yearly income of $0-$19,999 compared to a yearly income of $20,000-$29,999 (30% vs. 23%, P=0.01) (Table 7.12). Similarly, for advertisements that included a specific risk disclosure, women who noted a yearly income of $20,000-$29,999 showed a significantly greater likelihood to contact the doctor than women who noted a yearly income of $30,000-$40,000 (24% vs. 16%, P=0.07) (Table 7.12).

Table 7.12. Likelihood to Contact Doctor about Risks by Type of Risk Disclosure and Individual Economic Status

Individual Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
$0=$19,999/year	30%	64	21%	80	27%	62	24%	142
$20,000-$29,999/year	23%	84	20%	85	28%	85	24%	170
$30,000-$40,000+/year	7%	43	24%	34	11%	45	16%	79

A significant association was also found between monetary compensation and a woman's individual economic status, with regard to her likelihood of contacting a doctor about risks (Tables 7.13). Specifically, women who noted a yearly income of $20,000-$29,999 were significantly more likely to contact the doctor about risks when the advertisement listed $10,000 compensation rather than $5,000 (29% vs. 17%, P=0.06) (Table 7.13). Women who viewed an advertisement that listed $5,000 showed a downward sloping trend in their likelihood to contact the doctor about risks (Table 7.13). This showed that the more income a woman reported, the less likely she was to contact a doctor about the risks. This did not hold for advertisements that listed $10,000. Women who noted a yearly income of $20,000-$29,999 showed the highest likelihood among the three income levels to contact a doctor about risks when they observed an advertisement with $10,000 instead of $5,000 compensation (Table 7.13).

Table 7.13. Likelihood to Contact Doctor about Risks by Monetary Compensation and Individual Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
$0-$19,999/year	26%	101	26%	105
$20,000-$29,999/year	17%	116	29%	138
$30,000-$40,000+/year	11%	54	15%	68

Likelihood to Contact Doctor about Risks by Risk Disclosure and Monetary Compensation

The previous analyses have shown the variation in willingness to contact the doctor about risks on one dimension: first risk disclosure and then monetary compensation. The next analysis considers how a woman's willingness to participate in the donation process varies on two dimensions, looking at risk and monetary compensation simultaneously. The relationship between risk disclosure and monetary compensation was evaluated by determining if there was a relationship between the two variables that had any association with a woman's willingness to contact the doctor about risks. The binary variable for likelihood was used for this evaluation and the likelihood to contact the doctor about risks is presented in terms of the risk disclosure and the monetary compensation that was included in the advertisement (Table 7.14).

Although not significant, monetary compensation had the strongest association with the likelihood that a woman would contact the doctor about risks when she viewed an advertisement that included a specific risk disclosure (Table 7.14). Of the women who received an advertisement with a specific risk disclosure AND listed $5,000 compensation, 18% indicated they were likely to contact a doctor to learn more about the risks of egg donation (Table 7.14). This percentage increased to 29% for women who received an advertisement with a specific risk disclosure AND listed $10,000 compensation (P=0.16). In addition, women who viewed an advertisement that listed $10,000 compensation showed a 7% increase in likelihood to contact the doctor when the advertisement also included a specific risk disclosure compared to no risk disclosure (P=0.49) (Table 7.14).

Table 7.14. The Percent Likely to Contact Doctor about Risks by Risk Disclosure and Compensation

No Risk Disclosure vs. General Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	17 (20%)	24 (23%)	+ 3%
General Risk Disclosure	18 (19%)	24 (21%)	+ 2%
% Difference	-1%	- 2%	(-1%)
No Risk Disclosure vs. Specific Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	17 (19%)	24 (23%)	+ 4%
Specific Risk Disclosure	17 (18%)	29 (29%)	+ 11%
% Difference	- 1%	+ 6%	(+ 7%)
No Risk Disclosure vs. Any Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	17 (19%)	24 (23%)	+ 4%
Any Risk Disclosure	35 (19%)	53 (26%)	+ 7%
% Difference	0%	+ 3%	(+ 3%)

Likelihood to Contact Doctor about Risks: Regression Analysis

To assess the relationship between risk disclosure and compensation further, a regression analysis was performed (Tables 7.15). The regression evaluated whether compensation, risk disclosure, demographic factors or a combination of these and perhaps other factors explained any observed variability in a woman's willingness to contact the doctor about risks. An ordered probit regression was completed using the full scale for the dependent variables and showed similar results when compared to the probit regression models using the binary variable, shown below. A binary dependent variable was therefore used in this analysis.

Across all models, women who had seen an egg donor advertisement prior to completing the survey were significantly (approximately 9%) less likely to contact the doctor about the risks than those who had not seen an egg donor advertisement before and women who had considered egg donation prior to the survey were significantly (approximately 20%) more likely to contact a doctor about the risks than those who had not previously considered egg donation (Table 7.15). Models 3 and 4 introduced

respondent demographic characteristics and showed that women 31-35 years old were significantly less likely than women 25 years and younger to contact the doctor about the risks of egg donation (Table 7.15). Female graduate students from the University of Georgia were significantly more likely to contact the doctor than students from Emory, with University of Georgia students being 16% more likely (Table 7.15).

Model 5 of the regression analysis introduced interaction effects that evaluated whether the relationship between risk disclosure and the likelihood to contact the doctor about risks varied depending on the monetary compensation listed on the advertisement. The interaction terms between general risk disclosure and $10,000 (General Risk*$10K) and specific risk disclosure and $10,000 (Specific Risk*$10K) were not found to be significant (Table 7.15). This indicated that the effect of the risk disclosure on women's likelihood of contacting the doctor was not significantly different depending on whether the respondents viewed an advertisement with $5,000 or $10,000 compensation. However, Model 6 introduced the interaction term between low family economic status and $10,000 (Family Low Income*$10K) and did find that the likelihood that a woman from a family with low economic status would contact the doctor about risks was significantly higher when she also viewed an advertisement listing $10,000 rather than an advertisement listing $5,000 (Table 7.15).

Table 7.15. Average Marginal Effects in Contacting Doctor about Risks of Egg Donation

	Average Marginal Effects (dProbit)					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Read about ED	0.007	0.011	0.015	-0.007	-0.011	0.005
Seen Ad	-0.078*	-0.086*	-0.092*	-0.090*	-0.087*	-0.094*
Considered ED	0.235*	0.236*	0.194*	0.198*	0.199*	0.201*
Donated Eggs	0.106	0.077	0.139	0.209	0.228	0.180
Know ED	0.013	0.012	0.054	0.077	0.075	0.085
General Risk		-0.006	-0.014	-0.003	0.001	0.004
Specific Risk		0.025	0.037	0.040	-0.013	0.042
$10K		0.061	0.067	0.054	0.024	-0.005
Married			0.048	0.037	0.038	0.044
Children			-0.142	-0.148	-0.151	-0.145
Asian			-0.024	-0.061	-0.060	-0.053
Black			-0.007	-0.009	-0.012	-0.018
Hispanic			0.029	0.028	0.029	0.029
Minority			-0.007	-0.019	-0.010	-0.011
Age – 26 to 30			-0.077*	-0.066	-0.068	-0.070
Age – 31 to 35			-0.137*	-0.130*	-0.131*	-0.127*
Age – 36 to 40			-0.125	-0.130	-0.127	-0.132
Georgia Tech			0.113	0.087	0.085	0.083
UGA			0.160*	0.163*	0.163*	0.156*
Protestant			0.060	0.034	0.040	0.034
Roman Catholic			0.013	0.021	0.023	0.028
F: Low Income			0.059	0.068	0.069	-0.044
F: Middle Income			-0.022	-0.012	-0.011	-0.015
I: $20K-$29,999			0.002	-0.0003	0.001	-0.007
I: $30K-$40K+			-0.055	-0.048	-0.047	-0.055
Risk Averse				-0.038	-0.038	-0.037
Altruistic				-0.004	-0.006	-0.004
General Risk*$10K					-0.006	
Specific Risk*$10K					0.102	
Family Low Income*$10K						0.212*
Pseudo R^2	0.069	0.075	0.163	0.172	0.175	0.181
n	579	579	569	553	553	553

*Significant (P<0.05)

Note: For risk disclosure, No Risk is used as the reference group. For compensation, $5K is used as the reference group. For race, white is used as the reference group and 25 and under is used as the reference group for age. No Religion is used as reference group for religion, upper income for family economic status, and $0-$19,999 for student economic status. Emory used as reference group for student school.

Note: Specific fields of study did not show significance. Controlled for in models 3-6.

Note: Degree did not show significance. Controlled for in models 3-6.

Willingness to Contact the Company

The second primary likelihood variable explored in more depth was *Contact the Company*. The variable was evaluated with respect to specific respondent demographic characteristics, to include: age, race/ethnicity, and economic status (family and individual). Additional analyses considered how a woman's willingness to contact the company varied on two dimensions, looking at risk and monetary compensation simultaneously.

Likelihood to Contact the Company about Risks of Egg Donation: Full Scale

The full scale of the variable is presented in the Appendix F and showed that 30-45% of women were "*extremely unlikely*" to contact the company, regardless of the risk disclosure or monetary compensation listed on the advertisement. This was followed by approximately 15% of women who noted it was "*neither unlikely nor likely*" (Appendix F).

Likelihood to Contact the Company and Age

Starting with the respondent's age, the results showed no significant association between risk disclosure and likelihood of contacting the company in relation to a woman's age (Table 7.16). In general, women between 26-35 years showed some variation in likelihood across the different risk disclosures, although these differences were not significant ($P<0.05$). Older women aged 36-40 years showed minimal interest in contacting the company, especially when they were shown an advertisement with no risk disclosure or a general risk disclosure (Table 7.16).

Table 7.16. Likelihood to Contact Company by Type of Risk Disclosure and Age

Age:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Under 18-25 years old	20%	76	17%	90	18%	77	17%	167
26-30 years old	18%	78	18%	71	24%	74	21%	145
31-35 years old	21%	28	10%	21	7%	28	8%	49
36-40 years old	0	6	0	10	11%	8	11%	18

Similar to risk disclosure, monetary compensation did not show a significant association with a woman's likelihood to contact the company in relation to a woman's age (Table 7.16). Women 25 years old and younger showed the highest likelihood to contact the company when they viewed an advertisement with $5,000 and women 26-30 years old showed the highest likelihood when the advertisement listed $10,000 (Table 7.17). These results were not significant.

Table 7.17. Likelihood to Contact Company by Monetary Compensation and Age

Age:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Under 18-25 years old	19%	124	17%	119
26-30 years old	15%	98	24%	126
31-35 years old	10%	30	15%	48
36-40 years old	8%	12	8%	12

Likelihood to Contact the Company and Race/Ethnicity

Risk disclosure did not have a significant association with the respondent's race and likelihood to contact the company (Table 7.18). A woman's likelihood to contact the company increased for all races, except White, between an advertisement with no risk disclosure and an advertisement with a specific risk disclosure, although not significant (Table 7.18). White women showed a 4% decrease in likelihood between no risk

disclosure and specific risk disclosure (P=0.55). This exception could have been due in part to the sample of White respondents being larger than the samples of other race categories.

Table 7.18. Likelihood to Contact Company by Type of Risk Disclosure and Race

Race:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Asian	15%	26	18%	22	21%	28	20%	50
Black	25%	16	36%	14	20%	15	28%	29
Hispanic	14%	7	0	10	47%	17	30%	27
Other Minority	33%	6	25%	8	22%	9	24%	17
White	22%	147	22%	163	23%	143	22%	306

Monetary compensation was also not found to have a significant association with women of different races and their likelihood to contact the company. Asian, Black and White women showed similar likelihoods to contact the company when they viewed advertisements that listed $5,000 and advertisements that listed $10,000 (Table 7.19). This indicated that among these three races, monetary compensation did not have a stronger association with one race over another. For both $5,000 and $10,000 compensation, the likelihood that Asian, Black or White women would contact the company was less than 20% (Table 7.19).

Table 7.19. Likelihood to Contact Company by Monetary Compensation and Race

Race:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Asian	14%	36	10%	41
Black	18%	17	14%	28
Hispanic	19%	16	33%	18
Other Minority	36%	11	33%	12
White	16%	221	19%	233

Likelihood to Contact the Company and Family Economic Status

The economic status of the respondent's family and the likelihood that the respondent would contact the company were not significantly associated with the risk disclosure on the advertisement (Table 7.20). Women from families of low economic status showed the greatest likelihood to contact the company across all categories of risk disclosure, although not significant (Table 7.20).

Table 7.20. Likelihood to Contact Company by Type of Risk Disclosure and Family Economic Status

Family Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Low Income	21%	57	16%	61	22%	65	19%	126
Middle Income	17%	78	14%	65	15%	71	15%	136
Upper Income	18%	55	15%	73	19%	57	17%	130

Similarly, monetary compensation with respect to family economic status did not have a significant association with the likelihood that women would contact the company (Table 7.21). Fourteen percent of women from families of low economic status who viewed an advertisement that listed $5,000 were likely to contact the company. This likelihood increased to 24% when women were shown an advertisement that listed $10,000 (P=0.19) (Table 7.21). In comparison, the likelihood that a woman from a middle or upper class family would contact the company to learn more decreased by one and two percentage points, respectively, between the $5,000 and $10,000 advertisement (Table 7.21).

Table 7.21. Likelihood to Contact Company by Monetary Compensation and Family Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Low Income	14%	81	24%	103
Middle Income	16%	103	15%	111
Upper Income	18%	89	16%	97

Likelihood to Contact the Company and Individual Economic Status

Risk disclosure with respect to individual economic status did not have a significant association with the likelihood that a woman would contact the company (Table 7.22). A downward trend in likelihood was found when women observed an advertisement with no risk disclosure and a specific risk disclosure. In addition, significant differences were found among the individual economic statuses for advertisements that listed a specific risk disclosure. Women who noted a yearly income of $0-$19,999 or $20,000-$29,999 showed a significantly higher likelihood to contact the company compared to women who noted a yearly income of $30,000-$40,000+ (21% vs. 4%, P=0.03 and 24% vs. 4%, P=0.01, respectively) (Table 7.22).

Table 7.22. Likelihood to Contact Company by Type of Risk Disclosure and Individual Economic Status

Individual Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
$0=$19,999/year	23%	64	11%	80	21%	62	15%	142
$20,000-$29,999/year	19%	84	18%	85	24%	85	21%	170
$30,000-$40,000+/year	9%	43	18%	34	4%	45	10%	79

A significant association was not found between monetary compensation and a woman's individual economic status, with regard to her likelihood of contacting the company (Table 7.23). Women who viewed an advertisement that listed $5,000 showed a downward sloping trend in their likelihood to contact the company (Table 7.23). This

showed that the more income a woman reported, the less likely she was to contact the company. This did not hold for advertisements that listed $10,000. Women who noted a yearly income of $20,000-$29,999 showed the highest likelihood among the three income levels to contact the company when they observed an advertisement with $10,000 instead of $5,000 compensation (Table 7.23).

Table 7.23. Likelihood to Contact Company by Monetary Compensation and Individual Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
$0-$19,999/year	20%	101	16%	106
$20,000-$29,999/year	19%	117	24%	138
$30,000-$40,000+/year	7%	54	12%	68

Likelihood to Contact the Company by Risk Disclosure and Monetary Compensation

The following analysis considered the relationship between risk disclosure and monetary compensation to determine if there was a relationship between the two variables that had any association with a woman's willingness to contact the company. The binary variable for likelihood was used for this evaluation and the likelihood to contact the company is presented in terms of the risk disclosure and the monetary compensation that were included in the advertisement (Tables 7.24).

There was again no significant association between monetary compensation and the likelihood a woman would contact the company in relation to the type of risk disclosure she viewed on her mock advertisement (Table 7.24). However, the greatest difference in likelihood to contact the company was found between advertisements that

listed no risk disclosure and those that listed a general risk disclosure (Table 7.24). Of the women who received an advertisement with a general risk disclosure and $5,000 compensation, 11% indicated that they were likely to contact the company. This percentage increased to 19% for women who received an advertisement with a general risk disclosure and $10,000 compensation (P=0.23) (Table 7.24). In addition, women who viewed an advertisement listing $5,000 compensation were more likely to contact the company when they did not see a risk disclosure (20%) compared to when they saw a general risk disclosure (11%) (P=0.19) (Table 7.24). Similar observations were found when no risk disclosure and any risk disclosure were compared (Table 7.24).

Table 7.24. The Percent Likely to Contact Company by Risk Disclosure and Compensation

No Risk Disclosure vs. General Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	17 (20%)	18 (17%)	- 3%
General Risk Disclosure	10 (11%)	20 (19%)	+ 8%
% Difference	- 9%	+2%	(+ 11%)
No Risk Disclosure vs. Specific Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	17 (20%)	18 (17%)	- 3%
Specific Risk Disclosure	16 (17%)	20 (20%)	+ 3%
% Difference	- 3%	+ 3%	(+ 6%)
No Risk Disclosure vs. Any Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	17 (20%)	18 (17%)	- 3%
Any Risk Disclosure	26 (14%)	40 (19%)	+ 5%
% Difference	- 6%	+ 2%	(+ 8%)

Likelihood to Contact the Company: Regression Analysis

A regression analysis was also completed using *Contact the Company* as the dependent variable to evaluate whether compensation, risk disclosure, demographic factors or a combination of these and perhaps other factors explained any observed

variability in a woman's willingness to contact the company (Table 7.25). The regression analysis has a total of 6 models and a binary dependent variable was used in the analysis.

Similar to contacting the doctor about risks, women who had considered donating their eggs prior to completing the survey were significantly more likely (approximately 24%) to contact the company than women who had not previously considered being an egg donor (Table 7.25). Models 1 and 2 showed that women who had seen an egg donor advertisement prior to completing the survey were significantly (approximately 7%) less likely to contact the company than those that had not seen an egg donor advertisement before (Table 7.25). The woman's age was found to no longer to be a significant factor but marital status was. Across Models 3-6, women who indicated they were married were significantly less likely (approximately 6%) than comparable women who were not married to contact the company (Table 7.25).

No significant differences were found among women of different races, religion or economic status, and the only demographic characteristic that was found to be a significant factor was altruism (Table 7.25). Altruism was measured on a scale from 0-4, with 0 indicating the respondent never engaged in behaviors such as giving money to charity or donating blood and 4 indicating the respondent engaged in the activities very often (Rushton et al., 1981). The respondents were asked how often they exhibited five different altruistic behaviors (shown in Appendix B) and the average was taken from the five questions to develop a single altruistic variable for each respondent (Rushton et al., 1981). Table 7.25 shows that as a woman exhibited altruistic behaviors more frequently (i.e. from "more than once" to "often"), she was significantly more likely (approximately 5%) to contact the company. This supported the prediction (Hypothesis H4.5) that

women who rated themselves high on the altruism scale would show an increased willingness to participate as an egg donor compared to women who rated themselves low on the altruism scale.

The interaction terms introduced in Model 5 did not show significance, indicating that the effect of the risk disclosure on the woman's likelihood of contacting the company was not significantly different depending on whether she viewed an advertisement with $5,000 or $10,000 compensation. However, the interaction term between low family economic status and $10,000 in Model 6 was significant, showing the likelihood that a woman from a family with low economic status will contact the company does vary depending on the compensation women view on the advertisement (Table 7.25). Specifically, the likelihood that a woman from a family of low economic status would contact the company significantly increased ($P<0.05$) when the compensation on the advertisement increased from $5,000 to $10,000 (Table 7.25).

Table 7.25. Average Marginal Effects in Contacting the Company

Average Marginal Effects (dProbit)						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Read about ED	-0.033	-0.035	-0.011	-0.002	0.001	0.009
Seen Ad	-0.067*	-0.069*	-0.061	-0.064	-0.044	-0.066
Considered ED	0.256*	0.257*	0.254*	0.235*	0.207*	0.237*
Donated Eggs	0.129	0.099	0.142	0.042	0.055	0.022
Know ED	0.057	0.054	0.074	0.101	0.113	0.108
General Risk		-0.032	-0.027	-0.025	-0.088	-0.023
Specific Risk		0.003	0.012	0.010	-0.028	0.010
$10K		0.023	0.028	0.021	-0.048	-0.022
Married			-0.054	-0.070*	-0.060*	-0.062*
Children			-0.005	-0.008	0.013	-0.001
Asian			-0.050	-0.023	-0.038	-0.021
Black			-0.063	-0.056	-0.045	-0.064
Hispanic			0.078	0.064	0.060	0.068
Minority			0.095	0.040	0.057	0.050
Age – 26 to 30			-0.011	-0.006	-0.011	-0.011
Age – 31 to 35			-0.084	-0.084	-0.084	-0.082
Age – 36 to 40			-0.073	-0.084	-0.066	-0.087
Georgia Tech			0.058	0.045	0.046	0.049
UGA			0.024	0.021	0.019	0.015
Protestant			-0.041	-0.053	-0.031	-0.051
Roman Catholic			-0.002	0.003	-0.013	0.005
F: Low Income			0.004	-0.013	-0.016	-0.089
F: Middle Income			-0.006	-0.004	-0.017	-0.006
I: $20K-$29,999			0.013	0.008	0.004	0.004
I: $30K-$40K+			-0.015	-0.032	-0.042	-0.039
Risk Averse				-0.004	0.014	0.006
Altruistic				0.058*	0.053*	0.057*
General Risk*$10K					0.141	
Specific Risk*$10K					0.062	
Family Low Income*$10K						0.175*
Pseudo R^2	0.117	0.120	0.179	0.195	0.200	0.203
n	581	581	551	536	534	534

*Significant (P<0.05)

Note: For risk disclosure, No Risk is used as the reference group. For compensation, $5K is used as the reference group. For race, white is used as the reference group and 25 and under is used as the reference group for age. No Religion is used as reference group for religion, upper income for family economic status, and $0-$19,999 for student economic status. Emory used as reference group for student school.
Note: Specific fields of study did not show significance. Controlled for in models 3-6.
Note: Degree did not show significance. Controlled for in models 3-6.

Discussion

The screening questions answered by respondents prior to viewing the mock advertisement showed that a majority (90%) of the women had read or heard about egg donation and just over half (58%) had seen an egg donor recruitment advertisement prior to completing the survey (Table 7.1). This supports the results found in Kenney and McGowan's (2008) survey of 80 egg donors that showed 70.5% of the women learned about egg donation through advertisements in print or broadcast media. Of these women, a quarter noted that the advertisements they first observed were in a college or university newspaper, similar to the mock advertisements created for this survey. Similarly, Fielding et al. (1998) found a majority (62%) of the women in his sample had first learned about egg donation through media, specifically newspaper articles, with a small percentage (8%) learning about egg donation from a medical professional.

The screening questions also showed that 39% of the women surveyed had considered donating their eggs but only 1% had participated in the donation process. There are different levels of consideration such as, calling the company to learn more about the donation process, applying to become an egg donor, or simply thinking independently about donating before consulting an advertising company or a medical professional. It would be valuable to identify the extent to which the 39% of women considered donating their eggs. There is also value in exploring what motivated the women to first consider egg donation and determine whether or not the content of advertisements, in particular, had an impact on women's decision-making process.

It is also important to identify the primary reasons a majority of women did not proceed with the donation process. It is possible that some of the women who considered

donating their eggs tried to participate in the process but were not accepted by the agency or clinic. Alternatively, there could be particular factors about the donation process that influence women's decision not to proceed as an egg donor. Specifically, it would be important to learn if the potential risks of egg donation are a factor being considered by women, and if so, assessing if the risk is a significant reason women do not move forward with the donation process.

Risk disclosure on its own was not found to be significantly associated with a woman's willingness to participate as an egg donor, with respect to her age or race/ethnicity. However, both a woman's family and individual economic status were found to be significantly associated with risk disclosure and her willingness to contact the doctor about risks. A woman from a family of upper economic status was significantly more likely to contact the doctor about risks when she viewed an advertisement without risk disclosure in comparison to an advertisement with a general risk disclosure (P=0.05) or any risk disclosure (P=0.06) (Table 7.10). This significant decrease in likelihood to contact a doctor about the risks could represent a decreased interest in learning more about the donation process, specifically for women from families of upper economic status. In addition, women from families of upper economic status may not be motivated by compensation and therefore, the mention of potential risks could deter these women from inquiring about or participating in the donation process.

Risk disclosure was also significantly associated with individual economic status (Tables 7.12 & 7.22). Focusing only on those advertisements that included no risk disclosure, women noting a yearly salary of $0-$19,999 were significantly more likely (P=0.01) to contact a doctor about the risks than women with a yearly salary of $30,000-

$40,000+ (Table 7.12). Similarly, for advertisements that included a specific risk disclosure, women noting a yearly salary of $30,000-$40,000+ were significantly less likely to contact the company compared to women noting a yearly salary of $0-$19,999 and $20,000-$29,999 (P=0.03 and P=0.01, respectively) (Table 7.22). In both cases, women noting low yearly incomes were significantly more likely (P<0.05) to contact a doctor and the company than women with high yearly incomes. This could be the result of women with low yearly incomes showing a greater interest in donating due to being more motivated by the potential compensation earned from donating compared to women with higher yearly incomes. The greater interest in participating as a donor could explain the significant associations between risk disclosure and the different levels of individual economic status.

Monetary compensation on its own was found to have a significant association with a respondent's willingness to contact the doctor about the risks of egg donation with regard to age and economic status (family and individual). A woman 26-30 years old was significantly more likely to contact a doctor about risks when she viewed an advertisement listing $10,000 compensation compared to $5,000 (P=0.08) (Table 7.17). Although not significant, this same trend was observed for all women 35 years old and younger. Increasing the compensation to $10,000 showed a significant association with an increase in the likelihood to contact the doctor about the risks. The higher compensation cannot be directly connected with an increased desire to participate as a donor, but it can be assumed that the higher compensation was associated with an increased desire to, at a minimum, learn more about the donation process.

Significant observations were also found with monetary compensation and the family and individual economic status of the respondent. A 16% increase in likelihood to contact a doctor between the $5,000 and $10,000 advertisement was noted for women from families of low economic status (P=0.05), whereas women from families of middle and upper economic status showed smaller, non-significant differences (-4% and +6%, respectively) (Table 7.11). Although not significant, similar results were found with regard to contacting the company (Table 7.21). These results support previous studies that found financial compensation to be a motivating factor among college students with limited means of financial support (Kenney & McGowan, 2010; Patrick et al., 2001). They also support the findings from an ethnographic study showing women from middle or upper class families may feel that they have the financial support from their parents during graduate school when their own personal finances are limited, whereas women from low-income families may not have the same financial support from their parents.

Individual economic status and monetary compensation indicated women with a yearly income of $20,000-$29,999 were most likely among the three individual income levels to contact a doctor or the company when they observed an advertisement with $10,000 compared to $5,000 (Tables 7.13 & 7.23). Specifically related to contacting the doctor, these women were significantly more likely to contact a doctor about the risks when they viewed an advertisement listing $10,000 compared to $5,000 (P=0.06) (Table 7.13). Previous studies that evaluated the motivation of egg donors report that some women indicate financial incentives as their primary motivation for becoming an egg donor, especially when the compensation is viewed as a means for paying off loans or changing their standard of living (Klock et al., 2003; Lindheim et al., 2001; Kalfoglou &

Gittelsohn, 2000). Klock et al. (2003) surveyed 115 egg donors, of which 40% had an income less than $30,000 per year, and found that only 11% would donate if no financial compensation were provided.

Women of different economic statuses can therefore interpret compensation differently and, thus, may be influenced differently by listings of $5,000 and $10,000. The offer of $10,000 may not have any additional influence on women making less than $20,000 because the $5,000 payment is already a significant amount of money, increasing their likelihood to contact the doctor or the company. However, for women who have a yearly income of $20,000 or more, the difference between $5,000 and $10,000 compensation may be significant and thus have a greater association with their likelihood of engaging in activities related to the donation process.

When evaluating to what extent the monetary compensation listed on an advertisement influenced the potential donor's perception or evaluation of the risks involved with the donation process, monetary compensation showed the strongest association with the likelihood that a woman would contact the doctor when she viewed an advertisement that included a specific risk disclosure (Table 7.14). A 10% increase in likelihood was found between women who viewed an advertisement with specific risk disclosure and $5,000 and specific risk disclosure and $10,000 (Table 7.14). This 10% increase in likelihood could be the result of potential donors being motivated by the higher compensation. Alternatively, the inclusion of the specific risk disclosure could inherently create more questions about the donation process for the potential donor, resulting in an increased likelihood to contact the doctor.

Although not significant, women were found less likely to contact the company when they viewed an advertisement listing $5,000 and a general risk disclosure or specific risk disclosure compared to an advertisement listing $5,000 and no risk disclosure (Table 7.24). When the compensation was increased to $10,000, there was a small increase (3%) in women likely to contact the company when they viewed an advertisement with a specific risk disclosure compared to no risk disclosure (Table 7.24). These results show specific risk disclosure decreases the likelihood that a potential donor will contact the company. However, when compensation is increased from $5,000 to $10,000, advertisements with a specific risk disclosure do not show the same decrease in women likely to contact the company but show, instead, an increase in likelihood.

From the regression analyses (Table 7.25), altruism proved to be a significant factor in the likelihood of a woman contacting the company. This finding supports previous studies that have found altruism to be one of the primary motivating factors in whether or not a woman decided to become an egg donor (Fielding et al., 1998; Schover et al., 1991). Almeling (2011) did an extensive qualitative study of the sperm and egg donation industry and found potential egg donors were expected to be altruistic and not motivated by money. Almeling also found that women were initially motivated to donate their eggs by compensation until they connected with and/or began to learn about recipients, and then the main motivation focused on being "philanthropic" and providing the "ultimate gift" to those struggling with infertility (Almeling, 2011, pg. 116). Within the context of this survey, when women indicated they engaged often or very often in altruistic activities (i.e. giving money to charity, donating clothes or goods to a charity, or donating blood), this engagement could be seen as an indicator that they were also

significantly more likely than women who did not engage often in these altruistic activities to contact the company (Table 7.25).

Previous studies have discussed concerns of high compensation and the potential threat of exploiting women into making a rash decision of becoming an egg donor without fully considering the potential risks associated with the donation process (Steinbock, 2004; Acero, 2009; Cahn, 2009; Widdows, 2009). The results from this survey highlight women who identify as being altruistic and the value in ensuring that this group of women, and specifically their desire to be philanthropic, are not exploited to become egg donors. In addition, the survey also identified women from families of low economic status as more likely to respond to advertisements without full or any risk disclosure. The analyses showed that the likelihood a woman from a family of low economic status would contact the company significantly ($P<0.05$) increased when the compensation on the advertisement increased from $5,000 to $10,000 (Table 7.25). These results reveal the need for evaluating the groups of women who have the potential to be vulnerable to high compensation and then protecting these women from possible undue influence into becoming an egg donor.

Conclusion

The results from this survey are novel and provide further insight into how women recognize and perceive risk disclosures on egg donor recruitment advertisements. The analyses revealed that a majority of female graduate students were aware of egg donation and had seen an advertisement for egg donation but very few had actually engaged in the process of donating their eggs. The data showed that in general, the type of risk disclosure observed on the mock advertisement was significantly associated with

the likelihood that a woman would contact the doctor about risks with regard to her family and individual economic status. In addition, monetary compensation on its own did have a significant association with the likelihood that a woman would contact the company to learn more or become an egg donor when the required level of engagement and commitment from the donor increased. The respondent's age was found to be a significant factor in the likelihood of contacting the doctor about risks, along with whether or not the woman was from a family of low economic status. When contacting the company, the demographic characteristics found to be significantly associated with likelihood included women's marital status, altruistic identification and being from a family of low economic status. These results provide insights into potential policy implications focused on ensuring egg donors are fully informed before engaging in the egg donation process. These implications will be explored further in Chapter 9. The next analysis will first evaluate how, if at all, these results change when women are presented with a hypothetical scenario that speaks to how the variation of risk disclosure and compensation might operate in a population of vulnerable women with a greater financial need.

CHAPTER 8: IMPACT OF EARLY RISK DISCLOSRE— FEMALE GRADUATE SURVEY HYPOTHETICAL RESPONSE ANALYSIS

Introduction

The previous chapter focused on the female graduate students' *initial* response to survey questions related to their own perception of risks and to their own willingness to participate as egg donors after observing a mock egg donor advertisement. Because it was anticipated that most women would not be willing to participate in any activities related to becoming an egg donor, regardless of the risk disclosure or monetary compensation included on the advertisement, the survey included two hypothetical scenarios that asked respondents to remove themselves from their own situations and experiences and answer questions from a different perspective. In the first hypothetical scenario, women were asked to assume they were seriously considering donating their eggs. In the second, women were asked to imagine being in a financially vulnerable position that might prompt some to seriously consider donating their eggs.

This chapter first evaluates how concerned a woman is with the physical and psychological risks of egg donation when she considers the hypothetical scenario that asks her to assume she is seriously considering donating her eggs. These questions regarding a woman's concern for potential risks were only asked with respect to the hypothetical scenario, in an attempt to have women assess how the risks could directly affect them as an egg donor. Because these questions were not asked in the initial analysis there were no comparisons to be made with the initial responses.

This chapter then evaluates how, if at all, the responses change when a woman considers the second hypothetical scenario in which she is asked to imagine herself as a full-time graduate student with a part-time job but unable to cover her monthly expenses. The results from the initial response analysis showed that a lower family economic status was significantly associated with an increased likelihood that a woman would engage in various stages of the egg donation process, specifically contacting a doctor about the risks of donation and contacting the company either to learn more or to proceed with egg donation. The hypothetical response analysis examines this association further and evaluates how the variation of risk disclosure and monetary compensation might operate in a population of vulnerable women with a greater financial need.

The structure of the hypothetical response analysis is similar to the initial response analysis. The impacts of risk disclosure and monetary compensation are evaluated in a series of analyses, with *impact* being measured with two dependent variables: perception of risks and willingness to participate. Each analysis is completed in relation to risk disclosure and monetary compensation. The perception of risks is evaluated first, followed by a woman's willingness to participate in a series of activities related to egg donation. Additional analyses on willingness to participate are completed on two activities in particular, contacting a doctor about the risks of egg donation and contacting the company either to learn more or proceed with egg donation. The final analyses include regression models that examine to what extent the monetary compensation listed on an advertisement influences the potential donor's perception of the risks associated with the donation process.

Hypothetical Scenarios

The first hypothetical scenario measured the respondent's perception of the risks associated with egg donation. To assess concern, the respondents were presented with the following hypothetical scenario (Hypothetical Scenario 1): *"Assume you are seriously considering donating your eggs."* Asking this question with a hypothetical scenario allowed respondents to think about how the risks could directly affect them if they were to proceed as potential donors.

The second hypothetical scenario (Hypothetical Scenario 2) presented to each respondent was the following: *"Now assume you are a full-time college student with a part-time job that does not cover your monthly expenses. You come across the advertisement you were first shown [mock advertisement]."* The respondents were then asked to answer the same likelihood questions that were presented in the initial response analysis, using the same likelihood scale from 0-10 (Table 8.3).

Perception of Risks Associated with Egg Donation

The first dependent variable used to measure the impact of risk disclosure and monetary compensation was the respondent's perception of risk. To assess concern, women were presented with the first hypothetical scenario (Hypothetical Scenario 1): *"Assume you are seriously considering donating your eggs."* Asking this question as a hypothetical scenario allowed women to think about how the risks could directly affect them if they were to proceed as a potential donor. A respondent was asked about her level of concern for any physical or psychological risks she might incur from donating, if she

were an egg donor. Concern was measured on a scale of 0-10, with 0 being "*not at all concerned"* and 10 being "*extremely concerned"*.

It was predicted (Hypothesis H4.2) that women who viewed an advertisement with a risk disclosure would indicate more concern for the risks associated with the donation process compared to women who viewed an advertisement with no risk disclosure. This hypothesis was not borne out. In general, Table 8.1 shows that when women were asked to assume they were seriously considering donating their eggs, a majority (>75%) noted concern with the physical and psychological risks associated with egg donation, regardless of the risk disclosure included on their advertisement. When women considered Hypothetical Scenario 1, there was significantly ($P<0.05$) less concern noted for the psychological risks compared to the physical risks of the donation process. This was seen for all categories of risk disclosure. Women who viewed an advertisement with a general or specific risk disclosure were less likely to note concerns about psychological risks compared to women who viewed an advertisement with no risk disclosure (Table 8.1). This difference was significant for women who viewed an advertisement with no risk compared to women who viewed an advertisement that listed a specific risk (79% vs. 67%, $P=0.02$) (Table 8.1).

Table 8.1. Concern with Associated Risks by Type of Risk Disclosure

Concern With:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Physical risks from donating eggs	89%	190	92%	199	93%	194	92%	393
Psychological risks from donating eggs	79%	191	76%	200	67%	193	72%	373

It was predicted (Hypothesis H5.2) that women who received an egg donor advertisement that offered $10,000 compensation would note less concern about the risks associated with egg donation than women who received an advertisement that offered $5,000 compensation, controlling for risk disclosure. This hypothesis was not found to be true. In general, Table 8.2 shows that when women were asked to assume they were seriously considering donating their eggs, a majority (>72%) noted concern with the physical and psychological risks associated with egg donation, regardless of the monetary compensation listed on their advertisement. When women considered Hypothetical Scenario 1, there was significantly ($P<0.001$) less concern noted for the psychological risks compared to the physical risks of the donation process. This was seen for advertisements that listed $5,000 and $10,000 compensation. Therefore, a woman's concern for the risks associated with egg donation were not significantly associated with the financial compensation offered on the advertisement.

Table 8.2. Concern with Associated Risks by Monetary Compensation

Concern With:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Physical risks from donating eggs	91%	273	92%	310
Psychological risks from donating eggs	72%	272	76%	312

Willingness to Participate in Activities Related to Becoming an Egg Donor

The second dependent variable used to measure the impact of risk disclosure and monetary compensation was the respondent's willingness to participate in a series of activities related to becoming an egg donor. This was examined using a series of

analyses. First, a woman's likelihood to hypothetically participate in the series of activities related to egg donation was evaluated with respect to the type of risk disclosure they observed and the compensation listed on their advertisement. Each hypothetical analysis was compared to the results of the initial response analysis.

Willingness to Participate and Type of Risk Disclosure

The first analysis examined if there was a significant association between the risk disclosure included on the advertisement and the woman's likelihood of participating in a series of activities related to the egg donation process when she imagined being in a financially vulnerable position (Hypothetical Scenario 2) (Table 8.3). For these questions, likelihood was measured on a 0-10 scale, with 0 being "*extremely unlikely*" and 10 being "*extremely likely*". The mean likelihood to participate in each activity, given Hypothetical Scenario 2, is presented in terms of the risk disclosure that was included on the advertisement: no risk, general risk, specific risk (Table 8.3).

Two additional variables were constructed for both the initial and hypothetical response analysis. An additional risk disclosure category was created, *Any Risk*, which included all advertisements that listed either a general risk disclosure or a specific risk disclosure. The general risk disclosure acknowledged potential risks associated with egg donation and the specific risk disclosure acknowledged potential risks and also included details on what the potential risks could entail. Combining these two risk categories allowed for a comparison between advertisements with no risk disclosure and advertisements with some level of risk disclosure.

The second constructed variable, *Contact the company,* is a binary variable that includes the original variables *Contact the company to learn more about becoming an egg donor* and *Contact the company to become an egg donor*. If a respondent answered 0-5 ("*extremely unlikely"* to "*neither unlikely or likely"*) for contacting the company to learn more and 0-5 for contacting the company to become an egg donor, the respondent was coded as not likely to contact the company. If a woman answered 6-10 ("*extremely likely"*) either to contact the company to learn more or to contact the company become an egg donor, she was coded as likely to contact the company.

Previous literature has discussed the importance of disclosing associated risks before potential donors contact the company, assuming some individuals decide to participate before they view an informed consent document (Klitzman et al., 2008; Strong, 2001). This idea is routed in the "anchoring heuristic" theory presented by Kahneman and Tversky (1979) that describes how the initial information presented on an advertisement, for example, establishes the framework that influences how the individual processes and weighs information that could impact subsequent decisions. The constructed variable, *Contact the company*, allows for a clear distinction between the likelihood a woman would contact the company and the likelihood a woman would not contact the company. In addition, the two original variables were highly correlated (0.93) and testing for robustness showed results were generally similar when constructing the new variable, *Contact the company.*

Table 8.3. Mean Likelihood to *Hypothetically* Participate by Type of Risk Disclosure

Likelihood to:	*No Risk (n=191)*	*General Risk (n=200)*	*Specific Risk (n=192)*	*Any Risk (n=392)*
Search the Internet to learn about egg donation	7.83	7.83	7.89	7.86
Search the Internet to learn about any benefits of egg donation	7.32	7.13	7.21	7.17
Search the Internet to learn about any risks of egg donation	8.17	8.22	8.20	8.21
Search the Internet to learn about the company that placed the advertisement	7.46	7.33	7.44	7.36
Contact a doctor or other healthcare professional about benefits of egg donation	5.72	5.36	5.63	5.50
Contact a doctor or other healthcare professional about risks of egg donation	6.05	5.93	6.01	5.97
Contact the company listed on the advertisement to learn more information about becoming an egg donor	6.13	6.09	6.17	6.13
Contact the company to take the next steps in becoming an egg donor	5.92	5.69	5.80	5.74
Contact the Company	6.26	6.20	6.29	6.24

NOTE: 0-10 scale, with 0 being extremely unlikely and 10 being extremely likely.
NOTE: *Any Risk* is a combination of advertisements that listed general or specific risk disclosures.
NOTE: *Contact the company* is a constructed variable including *Contact the company to learn more* and *Contact the company to take the next steps*.

The results from Table 8.3 show that, when women considered Hypothetical Scenario 2, the type of risk disclosure observed on the mock advertisement was not significantly associated with the likelihood that the respondent would participate in the various activities related to the process of becoming an egg donor. This was similar to the results found in the initial response analysis (Table 7.2). There was no significant difference ($P<0.05$) for any of the activities between the mean likelihood of women who saw an advertisement with no risk and the mean likelihood of women who viewed an advertisement with any risk disclosure (Table 8.3). However, for each activity listed, the mean likelihood was greater for all risk categories when respondents were presented with Hypothetical Scenario 2, compared to the mean likelihoods observed in the initial response analysis (Table 8.4). When women were asked to assume a position of being

financially challenged, they were more likely to engage in the various activities related to the donation process, regardless of the risk disclosure included on the advertisement.

Table 8.4. Differences in Mean Likelihood to Participate by Type of Risk Disclosure (Hypothetical-Initial Response)

Likelihood to:	*No Risk (n=191)*	*General Risk (n=200)*	*Specific Risk (n=192)*	*Any Risk (n=392)*
Search the Internet to learn about egg donation	+2.28	+1.82	+2.01	+1.91
Search the Internet to learn about any benefits of egg donation	+2.03	+1.86	+1.87	+1.86
Search the Internet to learn about any risks of egg donation	+1.43	+1.11	+0.86	+0.99
Search the Internet to learn about the company that placed the advertisement	+1.78	+1.49	+1.71	+1.58
Contact a doctor or other healthcare professional about benefits of egg donation	+1.99	+1.95	+1.99	+1.98
Contact a doctor or other healthcare professional about risks of egg donation	+2.11	+2.15	+1.80	+1.98
Contact the company listed on the advertisement to learn more information about becoming an egg donor	+2.58	+2.75	+1.96	+2.62
Contact the company to take the next steps in becoming an egg donor	+2.67	+2.64	+2.12	+2.66
Contact Company	+2.66	+2.75	+3.18	+2.61

NOTE: 0-10 scale, with 0 being extremely unlikely and 10 being extremely likely.
NOTE: *Any Risk* is a combination of advertisements that listed general or specific risk disclosures.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

Likelihood variables were recoded into binary variables for Table 8.5. Respondents who answered 0-5 ("*extremely unlikely"* to "*neither unlikely or likely"*) were coded as not likely to participate in the activity and respondents who answered 6-10 ("*extremely likely"*) were coded as likely to participate.

Table 8.5. Likelihood to *Hypothetically* Participate by Type of Risk Disclosure

Likelihood to:	*No Risk* *N=191*	*General Risk* *N=200*	***Gen Risk-No Risk***	*Specific Risk* *N=192*	***Spec Risk-No Risk***	*Any Risk* *N=392*	***Any Risk-No Risk***
Search the Internet to learn about egg donation	76%	79%	+3%	79%	+3%	79%	+3%
Search the Internet to learn about any benefits of egg donation	66%	67%	+1%	70%	+4%	69%	+3%
Search the Internet to learn about any risks of egg donation	78%	81%	+3%	81%	+3%	81%	+3%
Search the Internet to learn about the company that placed the advertisement	70%	70%	0%	72%	+2%	71%	+1%
Contact a doctor or other healthcare professional about benefits of egg donation	43%	40%	-3%	39%	-4%	40%	-3%
Contact a doctor or other healthcare professional about risks of egg donation	50%	49%	-1%	47%	-3%	48%	-2%
Contact the company listed on the advertisement to learn more information about becoming an egg donor	50%	52%	+2%	52%	+2%	52%	+2%
Contact the company to take the next steps in becoming an egg donor	47%	46%	-1%	46%	-1%	46%	-1%
Contact the Company	53%	54%	+1%	53%	0%	53%	0%

NOTE: Variables recoded to be binary. Unlikely=0-5 and Likely= 6-10.
NOTE: *Any Risk* is a combination of advertisements that listed general or specific risk disclosures.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

The list of activities shown in Table 8.4 and 8.5 is ordered according to the level of engagement and commitment required from the potential egg donor. In general, as the activities became more serious and more involved for the potential egg donor, the likelihood of engaging in the activity decreased (Table 8.5). Using no risk disclosure as an example, when women considered Hypothetical Scenario 2, 78% who viewed an advertisement with no risk disclosure were likely to search the Internet to learn more

about egg donation, with 50% likely to contact the company to become an egg donor ($P<0.001$). This observation was consistent across all levels of risk disclosure.

The initial results analysis found risk disclosure on its own was significantly associated with a woman's likelihood to contact the company to become an egg donor (Table 7.3). Specifically, women who viewed an advertisement with no risk disclosure were significantly more likely than women who viewed a general risk disclosure or any risk disclosure to contact the company to become an egg donor. However, this significance in risk disclosure was lost in Hypothetical Scenario 2 when women considered being in a financially vulnerable position; there were no significant differences in the percent of women likely to engage in an activity with regard to the different risk disclosures (Table 8.5). This showed that, specifically in relation to taking the next steps to become an egg donor, the introduction of Hypothetical Scenario 2, in which women were asked to assume they were in a vulnerable financial situation, resulted in less focus on the risk disclosure in advertisements when women considered their likelihood of engaging in the egg donation process (Tables 7.3 & 8.4).

Additional differences between the initial and hypothetical analysis are shown in Table 8.6, showing the percent differences in the likelihood women would participate by the type of risk disclosure. For all activities, women were significantly ($P<0.05$) more likely to participate when presented with the scenario of being in a vulnerable financial situation, with percent differences being greater than 20% (Table 8.6).

Table 8.6. Percent Differences in Likelihood to Participate by Type of Risk Disclosure (Hypothetical - Initial)

Likelihood to:	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
Search the Internet to learn about egg donation	+33%	+28%	+30%	+29%
Search the Internet to learn about any benefits of egg donation	+29%	+29%	+30%	+30%
Search the Internet to learn about any risks of egg donation	+16%	+13%	+14%	+13%
Search the Internet to learn about the company that placed the advertisement	+25%	+22%	+28%	+25%
Contact a doctor or other healthcare professional about benefits of egg donation	+29%	+26%	+25%	+26%
Contact a doctor or other healthcare professional about risks of egg donation	+29%	+28%	+23%	+26%
Contact the company listed on the advertisement to learn more information about becoming an egg donor	+33%	+38%	+35%	+37%
Contact the company to take the next steps in becoming an egg donor	+32%	+39%	+34%	+37%
Contact Company	+35%	+39%	+34%	+36%

NOTE: Variables recoded to be binary. Unlikely=0-5 and Likely= 6-10.
NOTE: Any Risk is a combination of ads that listed general or specific risk disclosures.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

Willingness to Participate and Monetary Compensation

The second analysis that examined a woman's willingness to participate evaluated how, if at all, the inclusion of monetary compensation on an egg donor recruitment advertisement affected a potential donor's willingness to participate in the donation process when she imagined being in a financially vulnerable position (Hypothetical Scenario 2). The impact of monetary compensation was evaluated using the same series of likelihood questions, as seen in the risk disclosure analysis (Table 8.3). Likelihood was measured on a 0-10 scale, with 0 being *"extremely unlikely"* and 10 being *"extremely likely"*. Women were first asked to imagine being in a financially vulnerable position

(Hypothetical Scenario 2). Their likelihood to participate in each activity is presented in Table 8.7 by the level of monetary compensation that was included on the advertisement: $5,000 or $10,000.

Table 8.7. Mean Likelihood to *Hypothetically* Participate by Monetary Compensation

Likelihood to:	*$5,000 (n=273)*	*$10,000 (n=311)*	*Significance*
Search the Internet to learn about egg donation	7.85	7.85	
Search the Internet to learn about any benefits of egg donation	7.21	7.23	
Search the Internet to learn about any risks of egg donation	8.11	8.27	
Search the Internet to learn about the company that placed the advertisement	7.32	7.49	
Contact a doctor or other healthcare professional about benefits of egg donation	5.60	5.55	
Contact a doctor or other healthcare professional about risks of egg donation	5.85	6.12	
Contact the company listed on the advertisement to learn more information about becoming an egg donor	5.90	6.33	*
Contact the company to take the next steps in becoming an egg donor	5.53	6.03	**
Contact the company	6.00	6.46	*

*Significant (P<0.10) **Significant (P<0.05)
NOTE: 0-10 scale, with 0 being extremely unlikely and 10 being extremely likely.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

It was predicted (Hypothesis H5.1) that women who viewed an advertisement listing $10,000 compensation would show a higher willingness to participate as an egg donor than women who viewed an advertisement with $5,000. This hypothesis was borne out. Table 8.7 shows that when a woman imagined being in a financially vulnerable position, the mean likelihood that she would engage in all of the activities, with the exception of contacting the doctor about the benefits of egg donation, was higher when she observed an advertisement that listed $10,000 compared to $5,000 (Table 8.7). The three instances where this difference in mean likelihood was significant were the likelihood that women would contact the company to learn more (P=0.09), contact the

company to become an egg donor (P=0.05), and contact the company (constructed variable) (P=0.07). Therefore, when women considered Hypothetical Scenario 2, monetary compensation on its own had a significant association with the likelihood that women would participate in the donation process, as required level of engagement and commitment from potential donors increased.

These results are similar to what was found in the initial results analysis (Table 7.4). The initial results showed the mean likelihood to contact the company to learn more, contact the company to become an egg donor and contact the company (constructed variable), to be significantly higher (P<0.05) when a woman viewed an advertisement that listed $10,000 compensation rather than $5,000 (Table 7.4). These significant differences in the initial analysis were not lost with the introduction of Hypothetical Scenario 2 when women imagined being in a financially vulnerable position (Table 8.7). In addition, the influence of monetary compensation on a woman's likelihood of engaging in these three activities was similar between the initial response analysis and the hypothetical response analysis. For both the initial and the hypothetical response analyses, the mean likelihood that a woman would engage in the three activities increased at the same magnitude between advertisements that listed $5,000 and $10,000 compensation (Tables 7.4 and 8.7).

In addition, Table 8.8 shows that for each activity listed, the mean likelihood was greater for both levels of monetary compensation when respondents were presented with Hypothetical Scenario 2, compared to the mean likelihoods observed in the initial response analysis. When women were asked to assume a position of being financially challenged, they were more likely to engage in the various activities related to the

donation process, regardless of the monetary compensation included on the advertisement.

Table 8.8. Differences in Mean Likelihood to Participate by Monetary Compensation (Hypothetical-Initial Response)

Likelihood to:	*$5,000 (n=273)*	*$10,000 (n=311)*
Search the Internet to learn about egg donation	+2.16	+1.93
Search the Internet to learn about any benefits of egg donation	+1.97	+1.88
Search the Internet to learn about any risks of egg donation	+1.12	+1.14
Search the Internet to learn about the company that placed the advertisement	+1.79	+1.55
Contact a doctor or other healthcare professional about benefits of egg donation	+2.07	+1.91
Contact a doctor or other healthcare professional about risks of egg donation	+2.04	+2.00
Contact the company listed on the advertisement to learn more information about becoming an egg donor	+2.59	+2.62
Contact the company to take the next steps in becoming an egg donor	+2.60	+2.71
Contact the company	+2.61	+2.64

NOTE: 0-10 scale, with 0 being extremely unlikely and 10 being extremely likely.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

Just as was done in the risk disclosure analysis, likelihood variables were recoded into binary variables for Table 8.9. Respondents who answered 0-5 (*"extremely unlikely"* to *"neither unlikely or likely"*) were coded as not likely to participate in the activity and respondents who answered 6-10 (*"extremely likely"*) were coded as likely to participate.

Table 8.9. Likelihood to *Hypothetically* Participate by Monetary Compensation

Likelihood to:	*$5,000 (n=273)*	*$10,000 (n=311)*	*$10K - $5K*
Search the Internet to learn about egg donation	79%	77%	-2%
Search the Internet to learn about any benefits of egg donation	67%	68%	+1%
Search the Internet to learn about any risks of egg donation	79%	81%	+2%
Search the Internet to learn about the company that placed the advertisement	68%	73%	+5%
Contact a doctor or other healthcare professional about benefits of egg donation	42%	39%	-3%
Contact a doctor or other healthcare professional about risks of egg donation	46%	51%	+5%
Contact the company listed on the advertisement to learn more information about becoming an egg donor	47%	54%	+7%
Contact the company to take the next steps in becoming an egg donor	43%	40%	-3%
Contact the Company	49%	57%	+8%

NOTE: Variables recoded to be binary. Unlikely=0-5 and Likely= 6-10.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

When women imagined being in a financially vulnerable position, their likelihood to engage in any of the activities listed did not consistently increase between $5,000 and $10,000 compensation (Table 8.9). This was different than the initial results analysis that showed an increased likelihood to engage in all of the activities listed between advertisements that listed $5,000 and $10,000 (Table 7.5). In addition, looking at likelihood as a binary variable showed no significant difference in the percent likelihoods for any of the activities, with all percent differences between $10,000 and $5,000 being 8% or less. This is similar to what was observed in the initial results analysis, which also showed no significant difference in the percent likelihoods when likelihood was evaluated as a binary variable (Table 7.5).

In general, when a woman considered Hypothetical Scenario 2, she appeared to be more likely to engage in activities that involved searching the Internet for egg donation

information than speaking with a doctor (Table 8.9). Once the activity required the woman to contact a doctor or the company, the enhanced engagement with the process showed a significant decrease in likelihood (P<0.05). As an example, 79% of women who received an advertisement listing $5,000 were likely to search the Internet to learn about risks but only 46% of women were likely to contact a doctor to discuss the risks (P<0.001) (Table 8.9). This trend is also similar to what was observed in the initial analysis (Table 7.5).

Table 8.10 shows that when presented with Hypothetical Scenario 2, women were significantly more likely (P<0.05) to engage in all of the activities related to becoming an egg donor compared to their initial reactions to the advertisement. When women were asked to assume a position of being financially challenged, they were more likely to engage in the various activities related to the donation process, regardless of the monetary compensation included on the advertisement.

Table 8.10. Percent Differences in Likelihood to Participate by Monetary Compensation (Hypothetical-Initial)

Likelihood to:	*$5,000*	*$10,000*	*Significance*
Search the Internet to learn about egg donation	+34%	+28%	**
Search the Internet to learn about any benefits of egg donation	+29%	+29%	**
Search the Internet to learn about any risks of egg donation	+14%	+13%	**
Search the Internet to learn about the company that placed the advertisement	+24%	+22%	**
Contact a doctor or other healthcare professional about benefits of egg donation	+31%	+26%	**
Contact a doctor or other healthcare professional about risks of egg donation	+27%	+28%	**
Contact the company listed on the advertisement to learn more information about becoming an egg donor	+32%	+38%	**
Contact the company to take the next steps in becoming an egg donor	+33%	+39%	**
Contact Company	+33%	+38%	**

**Significant (P<0.05)
NOTE: Variables recoded to be binary. Unlikely=0-5 and Likely= 6-10.
NOTE: *Contact the company* is a constructed variable that includes *Contact the company to learn more* and *Contact the company to take the next steps*.

Willingness to Contact a Doctor about the Risks of Egg Donation

Additional analyses on a woman's willingness to participate focused on two likelihood variables believed to be primary indicators of a respondent's consideration and willingness to participate as an egg donor. The first variable evaluated is *Contact a doctor about the risks of egg donation*. This activity is considered to require a higher level of engagement from the potential egg donor. The variable was evaluated with respect to specific respondent demographic characteristics, to include family economic status and individual economic status[3]. Additional analyses considered how, when a woman imagined being financially vulnerable, her willingness to contact the doctor about risks varied on two dimensions, looking at risk and monetary compensation simultaneously.

Likelihood to Contact the Doctor about Risks of Egg Donation: Full Scale

The full scale of the variable, *Contact the doctor about the risks of egg donation* is presented in the Appendix G and showed that when women considered Hypothetical Scenario 2 and imagined being financially vulnerable, 15-20% were "*extremely unlikely*" to contact the doctor about risks, regardless of the risk disclosure or monetary compensation. This was followed by approximately 15% of women who noted it was "*neither unlikely nor likely*" (Appendix G). The percentage of women *"extremely unlikely"* to contact the doctor about risks decreased from the initial results when women imagined being in a financially vulnerable position. The initial results analysis showed

[3] Age and race/ethnicity were also evaluated, as was completed for the initial results analysis. However, given Hypothetical Scenario 2, these characteristics were not significantly associated with risk disclosure or monetary compensation. The results were also not found to substantially contribute to the discussion of how Hypothetical Scenario 2 influenced specific groups of women in their likelihood to engage in the donation process. Therefore, the results from the analyses involving age and race/ethnicity are shown in Appendix G.

30-45% of women were "*extremely unlikely*" to contact the doctor about risks, regardless of the risk disclosure or monetary compensation. The percentage of women who noted it was "*neither unlikely nor likely*" they would contact the doctor about risks remained consistent between the initial and hypothetical response, at approximately 15% (Appendices F & G).

Likelihood to Contact Doctor about Risks and Family Economic Status

When women imagined being in a financially difficult position, the economic status of her family and the likelihood that she would contact the doctor were not significantly associated with the risk disclosure on the advertisement (Table 8.11). This was different from the initial response analysis, where women from upper-income families were significantly more likely to contact the doctor about risks when they viewed an advertisement with no risk disclosure compared to an advertisement with a general risk disclosure (Table 7.10). Therefore, when a woman considered Hypothetical Scenario 2 and imagined being financially vulnerable, the economic status of her family was no longer a significant factor in her likelihood of contacting the doctor about the risks of egg donation.

Table 8.11. Likelihood to *Hypothetically* Contact Doctor about Risks by Type of Risk Disclosure and Family Economic Status

Family Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Low Income	49%	57	56%	62	50%	64	53%	126
Middle Income	43%	76	46%	65	41%	71	43%	136
Upper Income	60%	55	45%	73	52%	58	48%	131

Similar results were found with respect to the monetary compensation listed on the advertisement. When women considered Hypothetical Scenario 2 and imagined being financially vulnerable, monetary compensation was not found to have a significant association with a woman's family economic status and her likelihood of contacting a doctor. When women imagined being in a financially vulnerable position, women from low- and upper-income families did show an increased likelihood to contact the doctor about risks when compensation was increased to $10,000 (Tables 8.12). However, these differences were not significant. This was different than the initial results analysis that showed a woman from a family of low economic status was significantly more likely (P=0.05) to contact the doctor about the risks when she viewed an advertisement with $10,000 compensation compared to $5,000 (Table 7.11).

Table 8.12. Likelihood to *Hypothetically* Contact Doctor about Risks by Monetary Compensation and Family Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Low Income	44%	80	58%	103
Middle Income	45%	102	42%	110
Upper Income	49%	89	54%	97

Significant differences in a woman's likelihood to contact the doctor were found between the initial response and the hypothetical response, with respect to family economic status. For all categories of risk disclosure and monetary compensation, when women imagined being in a financially vulnerable position, their likelihood of contacting a doctor was significantly higher compared to her initial response (P<0.01) (Appendix G).

Likelihood to Contact the Doctor about Risks and Individual Economic Status

When women imagined being in a financially difficult position, risk disclosure did not have a significant association with the likelihood that women would contact a doctor with regard to individual economic status (Table 8.13). For each category of individual yearly income, the likelihood that a woman would contact a doctor did not change significantly across the different levels of risk disclosure.

However, significant differences were noted among women with different levels of yearly income who viewed an advertisement with no risk disclosure. When Hypothetical Scenario 2 was considered, women who noted a yearly income of $0-$19,999 were significantly more likely than women with a yearly income of $30,000-$40,000+ to contact a doctor (58% vs. 37%, P=0.08) when they viewed an advertisement with no risk disclosure (Tables 8.13). The significance disappeared when risk started to be disclosed, starting with the general risk disclosure. These significant differences in likelihood between levels of low and high yearly income were also observed in the initial response analysis (Table 7.12).

Table 8.13. Likelihood to *Hypothetically* Contact Doctor about Risks by Type of Risk Disclosure and Individual Economic Status

Individual Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
$0-$19,999/year	58%	64	48%	81	51%	61	49%	142
$20,000-$29,999/year	50%	82	48%	85	45%	86	47%	171
$30,000-$40,000+/year	37%	43	53%	34	44%	45	48%	79

Similar results were found with respect to the monetary compensation listed on the advertisement. When a woman imagined being financially vulnerable, monetary compensation did not have a significant association with a woman's individual economic

status and her likelihood to contact a doctor about risks (Table 8.14). The initial analysis showed that a woman noting a yearly income of $20,000-$29,999 had a significantly higher likelihood of contacting the doctor about the risks when she viewed an advertisement with $10,000 compensation compared to $5,000 (Table 7.13). When women imagined being in a financially vulnerable position, that significant difference initially observed for women noting a yearly income of $20,000-$29,999 was lost (Table 8.14).

Table 8.14. Likelihood to Contact Doctor about Risks by Monetary Compensation and Individual Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
$0-$19,999/year	53%	100	51%	106
$20,000-$29,999/year	44%	116	51%	137
$30,000-$40,000+/year	37%	54	50%	68

Significant differences in a woman's likelihood to contact the doctor were found between the initial response and the hypothetical response, with respect to her individual economic status. For all categories of risk disclosure and monetary compensation, when a woman imagined being in a financially vulnerable position, her likelihood of contacting a doctor was significantly higher compared to her initial response ($P<0.01$) (Appendix G).

Likelihood to Contact Doctor about Risks by Risk Disclosure and Monetary Compensation

The previous analyses have shown the variation in willingness to contact the doctor about risks on one dimension: first risk disclosure and then monetary compensation. The next analysis considers how, when a woman imagines being

financially vulnerable, her willingness to participate in the donation process varies on two dimensions, looking at risk and monetary compensation simultaneously. The relationship between risk disclosure and monetary compensation was evaluated by determining if there was a relationship between the two variables that had any association with a woman's willingness to hypothetically contact the doctor about risks. The binary variable for likelihood was used for this evaluation and the likelihood to contact the doctor about risks is presented in terms of the risk disclosure and the monetary compensation that was included in the advertisement (Table 8.15).

When a woman imagined being in a financially vulnerable position, monetary compensation was not found to have a significant association with the likelihood that she would contact the doctor about risks, with respect to the type of risk disclosure she observed (Table 8.15). This was similar to the results found in the initial results analysis (Table 7.14). Although not significant, the percent likelihood difference between no risk disclosure and the other risk disclosures was consistently negative when the advertisement also listed $5,000 and consistently positive when the advertisement listed $10,000 compensation (Table 8.15). In addition, when women considered Hypothetical Scenario 2 and viewed an advertisement with no risk disclosure, they were less likely contact the doctor when the advertisement listed $10,000 compensation compared to $5,000 (Table 8.15). Conversely, when a general, specific, or any risk disclosure was viewed, women were more likely to contact the doctor when the advertisement listed $10,000 compensation instead of $5,000 (Table 8.15). These differences were not significant.

Table 8.15. The Percent Likely to *Hypothetically* Contact Doctor about Risks by Risk Disclosure and Compensation

No Risk Disclosure vs. General Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	52% (45)	48% (49)	- 4%
General Risk Disclosure	43% (40)	54% (58)	+ 11%
% Difference	- 9%	+ 6%	(+ 15%)
No Risk Disclosure vs. Specific Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	52% (45)	48% (49)	- 4%
Specific Risk Disclosure	44% (40)	51% (51)	+ 7%
% Difference	- 8%	+ 3%	(+ 11%)
No Risk Disclosure vs. Any Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	52% (45)	48% (49)	- 4%
Any Risk Disclosure	43% (80)	52% (109)	+ 9%
% Difference	- 9%	+ 4%	(+ 13%)

Likelihood to Contact Doctor about Risks: Regression Analysis

To assess the relationship between risk disclosure and compensation further, a regression analysis was performed (Tables 8.16). The regression evaluated whether compensation, risk disclosure, demographic factors or a combination of these and perhaps other factors explained any observed variability in a woman's willingness to contact the doctor when she considered Hypothetical Scenario 2. An ordered probit regression was completed using the full scale for the dependent variables and showed similar results when compared to the probit regression models using the binary variable, shown below. A binary dependent variable was therefore used in this analysis.

Across all models, when women imagined being in a financially vulnerable position, women who had read about or considered egg donation prior to completing the survey were significantly (approximately 25% and 21%, respectively) more likely to contact the doctor about the risks than women who had not (Table 8.16). Women who had seen an egg donor advertisement prior to completing the survey were significantly

(approximately 12%) less likely to contact the doctor about risks compared to women who had not seen an egg donor advertisement before. This was similar to what was observed in the initial response regression analysis (Table 7.15).

The type of risk disclosure and the monetary compensation listed on the advertisement were not found to be significant across all models. This was consistent with the results found in the initial analysis. For both the initial and the hypothetical analyses, a woman was less likely to contact the doctor about risks when she viewed an advertisement with a general risk rather than an advertisement with no risk disclosure (Tables 7.15 and 8.16). In addition, both analyses showed a woman was more likely to contact the doctor when she viewed an advertisement that listed $10,000 compensation compared to $5,000 (Tables 7.15 and 8.16).

Models 3 and 4 introduced respondent demographic characteristics and showed that when women imagined being financially vulnerable, women who indicated they were married were significantly more likely (approximately 14%) to contact the doctor about risks than comparable women who were not married (Table 8.16). Marital status was not found to be a significant factor in the initial response regression analysis. However, similar to the initial response analysis, female graduate students from the University of Georgia were significantly more likely (approximately 13%) to contact the doctor than students from Emory (Table 8.16). A woman's race, age, family economic status and individual economic status were not found to be significant across models 3-6 (Table 8.16).

Model 5 of the regression analysis introduced interaction effects that evaluated whether the relationship between risk disclosure and the likelihood to contact the doctor about risks varied depending on the monetary compensation listed on the advertisement. Similar to the initial results regression analysis, when women considered Hypothetical Scenario 2, the interaction terms between general risk disclosure and $10,000 (General Risk*$10K) and the specific risk disclosure and $10,000 (Specific Risk*$10K) were not found to be significant (Table 8.16). This indicated that even when women imagined being financially vulnerable, the effect of the risk disclosure on women's likelihood of contacting the doctor was not significantly different depending on whether the respondents viewed an advertisement with $5,000 or $10,000 compensation. However, Model 6 introduced the interaction term between low family economic status and $10,000 (Family Low Income*$10K) and found the likelihood that a woman from a family with low economic status would contact the doctor about risks was significantly higher when she also viewed an advertisement listing $10,000 rather than an advertisement listing $5,000 (Table 8.16). Again, this result was similar to that found from the initial results regression analysis (Table 7.15).

Table 8.16. Average Marginal Effects in *Hypothetically* Contacting Doctor about Risks of Egg Donation

	Average Marginal Effects (dProbit)					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Read about ED	0.233*	0.236*	0.269*	0.256*	0.251*	0.270*
Seen Ad	-0.093*	-0.099*	-0.122*	-0.139*	-0.139*	-0.144*
Considered ED	0.209*	0.208*	0.205*	0.213*	0.213*	0.213*
Donated Eggs	-0.341	-0.358	-0.384	-0.368	-0.358	-0.386
Know ED	-0.022	-0.021	-0.007	0.027	0.028	0.035
General Risk		-0.014	-0.042	-0.035	-0.098	-0.028
Specific Risk		-0.032	-0.066	-0.071	-0.103	-0.066
$10K		0.048	0.073	0.058	-0.004	-0.010
Married			0.146*	0.127*	0.127*	0.134*
Children			0.002	-0.004	-0.004	-0.004
Asian			0.061	0.024	0.022	0.024
Black			-0.083	-0.084	-0.081	-0.087
Hispanic			-0.055	-0.083	-0.078	-0.087
Minority			0.063	0.038	0.050	0.059
Age – 26 to 30			-0.028	-0.011	-0.011	-0.019
Age – 31 to 35			-0.050	-0.029	-0.027	-0.030
Age – 36 to 40			0.033	-0.005	-0.006	-0.007
Georgia Tech			0.021	0.010	0.014	0.011
UGA			0.123*	0.132*	0.135*	0.127*
Protestant			0.036	0.006	0.008	0.002
Roman Catholic			-0.041	-0.035	-0.042	-0.032
F: Low Income			0.014	0.020	0.023	-0.101
F: Middle Income			-0.098	-0.098	-0.098	-0.099
I: $20K-$29,999			-0.090	-0.091	-0.089	-0.100
I: $30K-$40K+			-0.116	-0.112	-0.106	-0.121
Risk Averse				-0.042	-0.040	-0.041
Altruistic				0.002	0.003	-0.003
General Risk*$10K					0.117	
Specific Risk*$10K					0.061	
Family Low Income*$10K						0.213*
Pseudo R^2	0.044	0.046	0.104	0.109	0.110	0.115
n	578	578	563	547	547	547

*Significant (P<0.05)

NOTE*:* For risk disclosure, No Risk is used as the reference group. For compensation, $5K is used as the reference group. For race, white is used as the reference group and 25 and under is used as the reference group for age. No Religion is used as reference group for religion, low income for family economic status, and $0-$19,999 for student economic status. Emory used as reference group for student school.

NOTE*:* Specific fields of study did not show significance. Controlled for in models 3-6.

NOTE*:* Degree did not show significance. Controlled for in models 3-6.

Willingness to Contact the Company

The second primary likelihood variable explored in more depth was *Contact the Company*. This activity is also considered to require a higher level of engagement from the potential egg donor. The variable was evaluated with respect to specific respondent demographic characteristics, to include family economic status and individual economic status[4]. Additional analyses considered how, when a woman imagined being financially vulnerable, her willingness to contact the doctor about risks varied on two dimensions, looking at risk and monetary compensation simultaneously.

Likelihood to Contact the Company: Full Scale

The full scale of the variable is presented in Appendix G and showed that when women considered Hypothetical Scenario 2 and imagined being financially vulnerable, 15-20% were "*extremely unlikely*" to contact the company, regardless of the risk disclosure or monetary compensation. This was followed by approximately 15% of women who noted it was "*neither unlikely nor likely*" (Appendix G). The percentage of women *"extremely unlikely"* to contact the company decreased from the initial results when women imagined being financially vulnerable. The initial results analysis showed 30-45% of women were "*extremely unlikely*" to contact the company, regardless of the risk disclosure or monetary compensation. The percentage of women who noted it was "*neither unlikely nor likely*" they would contact the company remained consistent between the initial and hypothetical response, at approximately 15% (Appendices F & G).

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[4] Age and race/ethnicity were also evaluated, as was completed for the initial results analysis. However, given Hypothetical Scenario 2, these characteristics were not significantly associated with risk disclosure or monetary compensation. The results were also not found to substantially contribute to the discussion of how Hypothetical Scenario 2 influenced specific groups of women in their likelihood to engage in the donation process. Therefore, the results from the analyses involving age and race/ethnicity are shown in Appendix G.

Likelihood to Contact Company and Family Economic Status

When women imagined being in a financially difficult position, the economic status of her family and the likelihood that she would contact the company was not significantly associated with the risk disclosure on the advertisement (Tables 8.17). This result was similar to the initial results analysis that found the economic status of the respondent's family and the likelihood of contacting the company were not significantly associated with the risk disclosure on the advertisement (Table 7.20).

However, when women considered Hypothetical Scenario 2 and viewed an advertisement with specific risk or any risk disclosure, there were significant differences between the different levels of family economic status (Table 8.17). For all levels of risk disclosure, women from low-income families showed the highest likelihood of contacting the company. Significantly more women from low-income families than middle-income families were likely to contact the company when they considered Hypothetical Scenario 2 and viewed an advertisement with a specific risk disclosure (65% vs. 47%, P=0.09). Similarly, when the advertisement listed any risk disclosure, women from low-income families were significantly more likely to contact the company than women from middle-income (63% vs. 49%, P=0.06) or upper-income families (63% vs. 48%, P=0.04) (Table 8.17). These significant differences between different levels of family economic status were not observed in the initial results analysis (Table 7.20).

Table 8.17. Likelihood to *Hypothetically* Contact Company by Type of Risk Disclosure and Family Economic Status

Family Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Low Income	58%	57	61%	61	65%	65	63%	127
Middle Income	51%	77	52%	65	47%	71	49%	136
Upper Income	51%	55	49%	73	47%	58	48%	131

There was also no significant association found between monetary compensation and the likelihood that a woman would contact the company when Hypothetical Scenario 2 was considered, with respect to her family economic status (Table 8.18). This result is similar to what was observed in the initial results analysis (Table 7.21). Although not significant, women from low-income families showed the highest likelihood to contact the company when they imagined being in a financially vulnerable position (Table 8.18). This was true regardless of whether the advertisement listed $5,000 or $10,000 compensation. This result was not consistent with the initial results analysis that showed women from upper-income families were the most likely to contact the company when $5,000 compensation was listed on the advertisement and women from low-income families were the most likely to contact the company when $10,000 was listed (Table 7.21). These likelihood differences between levels of family economic status observed in the initial results analysis were also not significant.

Table 8.18. Likelihood to *Hypothetically* Contact Company by Monetary Compensation and Family Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
Low Income	58%	81	64%	103
Middle Income	49%	103	51%	110
Upper Income	42%	89	56%	97

Significant differences in a woman's likelihood to contact the company were found between the initial response and the hypothetical response, with respect to her family economic status. For all categories of risk disclosure and monetary compensation, when a woman imagined being in a financially vulnerable position, her likelihood of contacting the company was significantly higher compared to her initial response ($P<0.01$) (Appendix G).

Likelihood to Contact the Company and Individual Economic Status

When women imagined being in a financially difficult position, risk disclosure did not have a significant association with the likelihood that women would contact the company with regard to individual economic status (Tables 8.19). For each category of individual yearly income, the likelihood that a woman would contact the company did not change significantly across the different levels of risk disclosure. However, significant differences were noted among women with different levels of yearly income who viewed an advertisement with no risk disclosure. When Hypothetical Scenario 2 was considered, women who noted a yearly income of $0-$19,999 were significantly more likely than women with a yearly income of $30,000-$40,000+ to contact a company (59% vs. 37%, $P=0.07$) when they viewed an advertisement with no risk disclosure (Table 8.19). Significant differences in likelihood between levels of low and high yearly income were also observed in the initial response analysis but for advertisements that included a specific risk disclosure, rather than no risk disclosure (Table 7.22).

Table 8.19. Likelihood to *Hypothetically* Contact Company by Type of Risk Disclosure and Individual Economic Status

Individual Economic Status:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
$0-$19,999/year	59%	64	47%	81	56%	62	51%	143
$20,000-$29,999/year	55%	84	61%	85	50%	86	56%	171
$30,000-$40,000+/year	37%	43	53%	34	51%	45	52%	79

Unlike the risk disclosure analysis, when a woman considered Hypothetical Scenario 2, a significant association was found between monetary compensation and her individual economic status, with regard to her likelihood of contacting the company (Table 8.20). Specifically, the likelihood that a woman noting a yearly income of $20,000-$29,999 would contact the company was significantly higher when she viewed an advertisement with $10,000 compensation compared to $5,000 (64% vs. 46%, P=0.01) (Table 8.20). This was different from the initial results analysis that did not find a significant association between monetary compensation and a woman's individual economic status, with regard to her likelihood of contacting the company (Table 7.23).

Table 8.20. Likelihood to Contact Company by Monetary Compensation and Individual Economic Status

Family Economic Status:	*Five Thousand*		*Ten Thousand*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*
$0-$19,999/year	52%	101	55%	106
$20,000-$29,999/year	46%	117	64%	137
$30,000-$40,000+/year	48%	54	46%	68

With respect to individual economic status, significant differences in the likelihood to contact the company were found between a woman's initial response and her response when she considered Hypothetical Scenario 2 (Appendix G). Regardless of individual economic status, when women imagined being financially vulnerable, their

likelihood of contacting the company was significantly higher (P<0.01) compared to their initial response (Appendices F & G). This was consistent for all levels of risk disclosure and monetary compensation.

Likelihood to Contact the Company by Risk Disclosure and Monetary Compensation

The following analysis considered the relationship between risk disclosure and monetary compensation to determine if there was a relationship between the two variables that had any association with a woman's willingness to hypothetically contact the company. The binary variable for likelihood was used for this evaluation and the likelihood to contact the company is presented in terms of the risk disclosure and the monetary compensation that were included in the advertisement (Tables 8.21).

When women imagined being financially vulnerable, there was a significant association between monetary compensation and the likelihood a woman would contact the company in relation to the type of risk disclosure she viewed on her advertisement (Table 8.21). This significance was found when a woman viewed an advertisement with a general risk disclosure or any risk disclosure. Of the women who received an advertisement with a general risk disclosure AND $5,000 compensation, 44% indicated that they were likely to contact the company (Table 8.21). This percentage increased to 63% when women received an advertisement that listed a general risk disclosure AND $10,000 compensation (P=0.02) (Table 8.21). Similar increases in likelihood were found for women who observed an advertisement with any risk disclosure, as the percent likely to contact the company increased significantly (P=0.02) from 46% to 60% between $5,000 and $10,000 compensation (Table 8.21). No significant associations were found in the initial results analysis (Table 7.24).

Table 8.21. The Percent Likely to *Hypothetically* Contact Company by Risk Disclosure and Compensation

No Risk Disclosure vs. General Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	56% (49)	50% (51)	- 6%
General Risk Disclosure	44% (41)	63% (67)	+ 19%**
% Difference	- 12%	+ 13%	(+ 25%)
No Risk Disclosure vs. Specific Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	56% (49)	50% (51)	- 6%
Specific Risk Disclosure	47% (44)	57% (58)	+ 10%
% Difference	- 9%	+ 7%	(+ 16%)
No Risk Disclosure vs. Any Risk Disclosure			
	$5,000	**$10,000**	**% Difference**
No Risk Disclosure	56% (49)	50% (51)	- 6%
Any Risk Disclosure	46% (85)	60% (125)	+ 14%**
% Difference	- 10%	+ 10%	(+ 20%)

NOTE: **Significant (P<0.05)

Likelihood to Contact the Company: Regression Analysis

A regression analysis was also completed using *Contact the Company* as the dependent variable to evaluate whether compensation, risk disclosure, demographic factors or a combination of these and perhaps other factors explained any observed variability in a woman's willingness to contact the company when she imagined being financially vulnerable (Table 8.22). The regression analysis has a total of 6 models and a binary dependent variable was used in the analysis.

When Hypothetical Scenario 2 was introduced, women who had considered donating their eggs prior to completing the survey were significantly more likely (approximately 37%) to contact the company than women who had not previously considered being an egg donor (Table 8.22). This was similar to what was found in the initial results regression analysis (Table 7.25). Additionally, the type of risk disclosure and the monetary compensation listed on the advertisement were not found to be

significant across all models (Table 8.22). This was consistent with the results found in the initial analysis (Table 7.25).

Unlike the initial results analysis, Models 3-6 showed race was a significant factor when women imagined being financially vulnerable. Specifically, Asian and Black women were significantly less likely (16% and 18%, respectively) to contact the company than comparable White women (Table 8.22). Family economic status was the only other demographic characteristic found to be a significant factor when women considered Hypothetical Scenario 2 (Table 8.22). Specifically, models 3-5 in Table 8.22 showed women from families of low economic status were significantly more likely (approximately 13%) to contact the company than comparable women from families of upper economic status. The initial results regression analysis did not find family economic status to be a significant factor in a woman's likelihood to contact the company (Table 7.25). Additionally, when women imagined being financially vulnerable, altruism was no longer found to be a significant factor in whether a woman was likely to contact the company, as it was in the initial response analysis.

Model 5 of the regression analysis introduced interaction effects that evaluated whether the relationship between risk disclosure and the likelihood to contact the doctor about risks varied depending on the monetary compensation listed on the advertisement. The interaction term between general risk disclosure and $10,000 (General Risk*$10K) was found to be significant ($P<0.05$), while the interaction between specific risk disclosure and $10,000 (Specific Risk*$10K) was not found to be significant (Table 8.22). Unlike the initial results regression, when a woman imagined being in a financially vulnerable position, the likelihood that a woman who viewed an advertisement with a

general risk disclosure would contact the company did vary depending on the compensation listed on the advertisement (Table 8.22). Specifically, the likelihood that a woman who viewed an advertisement with a general risk disclosure would contact the company significantly increased ($P<0.05$) when the compensation on the advertisement increased from $5,000 to $10,000 (Table 8.21). Additionally, Model 5 showed that a woman who viewed an advertisement that listed a general risk disclosure and $5,000 compensation was significantly less likely (approximately 18%) to contact the company than a comparable woman who viewed an advertisement with no risk disclosure and $5,000 compensation.

The interaction term between low family economic status and $10,000 compensation (Family Low Income*$10K) introduced in Model 6 did not show significance when women considered Hypothetical Scenario 2 and imagined being financially vulnerable (Table 8.22). This result is different from the initial results regression analysis, which found this interaction term to be significant (Table 7.25). The results in Model 6 of Table 8.22, however, indicated when a woman imagined being financially vulnerable, the effect of the risk disclosure on the woman's likelihood of contacting the company was no longer significantly different depending on whether she viewed an advertisement with $5,000 or $10,000 compensation.

Table 8.22. Average Marginal Effects in *Hypothetically* Contacting the Company

	Average Marginal Effects (dProbit)					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Read about ED	0.135	0.141	0.136	0.147	0.132	0.146
Seen Ad	-0.060	-0.068	-0.074	-0.074	-0.075	-0.074
Considered ED	0.359*	0.358*	0.371*	0.364*	0.369*	0.365*
Donated Eggs	-0.084	-0.109	-0.285	-0.276	-0.233	-0.274
Know ED	0.061	0.062	0.028	0.020	0.019	0.019
General Risk		0.012	-0.019	-0.014	-0.177*	-0.015
Specific Risk		0.001	-0.015	-0.005	-0.106	-0.005
$10K		0.068	0.079	0.077	-0.093	0.084
Married			0.039	0.042	0.041	0.041
Children			-0.005	-0.015	-0.018	-0.015
Asian			-0.165*	-0.161*	-0.167*	-0.161*
Black			-0.180*	-0.185*	-0.180*	-0.184
Hispanic			-0.067	-0.046	-0.040	-0.045
Minority			-0.109	-0.109	-0.073	-0.111
Age – 26 to 30			0.028	0.036	0.033	0.037
Age – 31 to 35			-0.006	-0.0001	0.004	-0.0002
Age – 36 to 40			0.206	0.187	0.194	0.186
Georgia Tech			-0.063	-0.083	-0.070	-0.083
UGA			0.058	0.039	0.048	0.040
Protestant			0.023	0.030	0.037	0.030
Roman Catholic			0.045	0.022	0.006	0.022
F: Lower Income			0.129*	0.129*	0.142*	0.141
F: Middle Income			0.013	0.019	0.022	0.019
I: $20K-$29,999			-0.043	-0.058	-0.051	-0.058
I: $30K-$40K+			-0.085	-0.096	-0.080	-0.095
Risk Averse				-0.004	0.003	-0.005
Altruistic				0.003	0.005	0.004
General Risk*$10K					0.282*	
Specific Risk*$10K					0.184	
Family Low Income*$10K						-0.024
Pseudo R^2	0.097	0.100	0.147	0.146	0.155	0.146
n	580	580	572	556	556	556

*Significant (P<0.05)

NOTE*:* For risk disclosure, No Risk is used as the reference group. For compensation, $5K is used as the reference group. For race, white is used as the reference group and 25 and under is used as the reference group for age. No Religion is used as reference group for religion, low income for family economic status, and $0-$19,999 for student economic status. Emory used as reference group for student school.

NOTE*:* Specific fields of study did not show significance. Controlled for in models 3-6.

Discussion

The hypothetical response analysis evaluated how the variation of risk disclosure and monetary compensation might operate in a population of women who are in a financially vulnerable position. In general, there was an increased likelihood from the initial response that women would engage in the various activities of egg donation when they considered Hypothetical Scenario 2 and imagined being in a financially vulnerable position. This was consistent across all levels of risk disclosure and monetary compensation. Therefore, when women imagined being financially vulnerable, they were more likely to engage in the donation process regardless of the information that was presented on their advertisement.

These results indicate that a woman's financial situation can therefore be an important factor in a woman's decision-making process in whether or not she decides to proceed with the donation process. Compared to the initial results analysis, the hypothetical analysis showed that when women are in a financially vulnerable situation and in need of money, they are more willing to engage in process of becoming an egg donor. The reason for this increased willingness could be directly related to a woman's financial need. Once a woman's financial need reaches a certain level and she feels that her means for meeting her financial demands have been exhausted, her willingness to earn money using untraditional sources, such as egg donation, increases. This was shown in previous studies that found financial incentives to be a primary motivation for potential egg donors, especially when the compensation was a means for paying off loans or changing a standard of living (Klock et al., 2003; Lindheim et al., 2001).

When the influence of a woman's financial situation was explored further with respect to Hypothetical Scenario 2, significant differences were found between different levels of family economic status and the likelihood that a woman would contact the company. Specifically, a woman from a low-income family was significantly more likely ($P<0.10$) than a woman from a middle-income family to contact the company when she viewed an advertisement with a specific risk disclosure (Table 8.17). These significant differences were not found in the initial analysis.

Compared to the initial response, a woman's family economic status could now be a significant factor, given Hypothetical Scenario 2, because a woman might look to her family first, as a means for the financial responsibilities that she cannot meet. In the case of this study, the details of the potential risks presented in the specific risk disclosure, could create similar concern among women regardless of their economic background. However, when women are asked to imagine being in a financially vulnerable position, women from middle or upper class families may feel they still have the financial support from their parents when their own personal finances are hypothetically limited. When women from low-income families are asked to imagine being financially vulnerable, they may not have the same financial support from their parents. Therefore, women from low-income families may be more willing to move forward with contacting the company regardless of the potential risks listed on the advertisement. This result supports previous studies that found financial compensation to be a motivating factor among college students with limited means of financial support (Kenney & McGowan, 2010; Patrick et al., 2001).

This importance of a woman's family economic status, specifically once she imagined being financially vulnerable, was highlighted further in the regression analysis (Table 8.21). The regression found a woman from a family of low economic status was significantly more likely to contact the doctor about risks when she viewed an advertisement that listed $10,000 rather than $5,000 compensation. This suggests that when a woman from a family of low economic status, in particular, imagines being in a financially vulnerable position, she has the potential to be influenced by the compensation listed on the advertisement. In the case of this study, the offering of an additional $5,000 compensation significantly increased her likelihood to contact a doctor about the risks, holding risk disclosure constant (Table 8.21).

Future studies should evaluate these results further to gain more insight into a more precise monetary value that a woman from a family of low economic status becomes significantly more likely to contact a doctor about risks and engage in the donation process. The current study was only able to vary the monetary compensation listed on the advertisement from $5,000 to $10,000, given limitations of the expected sample size. However, a larger sample could allow for additional variations in the monetary compensation between $5,000 and $10,000, as well as values above $10,000. Personal egg donor recruitment advertisements, in particular, have been found to list up to $50,000 compensation and there is value in determining the monetary levels at which women from families of middle and upper economic statuses are also more likely to engage in the donation process.

A woman's individual economic status was also found to be a potentially important factor in her willingness to engage in the donation process. When a woman

imagined being in a financially vulnerable position, a woman who noted a yearly income of $20,000-$29,999 was significantly more likely to contact the company when she viewed an advertisement with $10,000 compensation compared to $5,000 (P=0.01) (Table 8.20). This was not seen in the initial results analysis. Therefore, these results show that when a woman imagined being financially vulnerable, the compensation listed on the advertisement could then have a significant association with her likelihood of contacting the company about egg donation. In the initial response analysis, women, specifically those making a yearly income of $20,000-$29,999 may have had just enough money to make ends meet, with the expectation that their financial situation was only temporary until they completed graduate school. However, once these women were asked to imagine being in a situation where they were unable to maintain their monthly financial responsibilities, their need for an additional source of income may have become more immediate, making the increase in compensation from $5,000 to $10,000 appear more significant.

The future studies that propose to evaluate additional values of monetary compensation would also provide further insight into the association between monetary compensation and individual economic status. A woman's individual economic status could arguably be even more influential than her family economic status. When considering Hypothetical Scenario 2, a significant difference in likelihood may not have been observed between the two compensations for women making less than $20,000 a year because $5,000 compensation was already a significant amount of money to them. Similarly, women with yearly incomes above $30,000 may have required more than $10,000 compensation to be significantly more likely to engage in the donation process.

These additional studies could help parse out the levels of compensation at which women from low, middle and high income levels are more likely to engage in the donation process.

The hypothetical analysis also showed that a woman who noted a yearly income of $0-$19,999 was significantly more likely ($P<0.10$) than a woman with a yearly income of $30,000-$40,000+ to contact the doctor about risks and contact the company when she viewed an advertisement with no risk disclosure. Significance was lost when risk disclosure was introduced. This loss of significance between individual economic statuses when risk disclosure was introduced could be a reflection of women from all economic levels being satisfied with the acknowledgement of risk, at a minimum, in a situation where they imagined being financially vulnerable. When no risk disclosure was presented on an advertisement, women with high yearly incomes may have had reservations about engaging in the donation process and may have felt, even as they considered Hypothetical Scenario 2, that they could find alternative ways to earn money that did not include egg donation. Women with a low yearly income, however, may have felt restricted in the financial opportunities they had available, especially when asked to consider being in an even more financially compromised position than they already were.

While the financial status of the woman was found to be an important factor in the hypothetical analysis, the results also suggested that risk disclosure on recruitment advertisements was not a significant factor in a woman's decision of whether or not she participated in the donation process. The initial analysis found women who viewed an advertisement with no risk disclosure were significantly more likely than women who viewed a general risk disclosure or any risk disclosure to contact the company to become

an egg donor (Table 7.3). However, this significance was lost when a woman imagined being in a financially vulnerable position, indicating that the introduction of Hypothetical Scenario 2 resulted in less focus on the risk disclosure in advertisements when women considered their willingness to engage in the donation process (Table 8.5).

A possible explanation for this loss of significance and decreased focus on risk disclosure when women imagined being in a financially vulnerable position could be that the women surveyed were simply not concerned with any potential risks associated with egg donation. However, the results from Tables 8.1 and 8.2 showed that this was in fact not the case and the loss of significance was not due to a lack of concern about the risks associated with egg donation. When women considered Hypothetical Scenario 1 and seriously considered donating their eggs, approximately 89% or more of the women were concerned with the physical risks of egg donation, regardless of the risk disclosure or the monetary compensation listed on the advertisement (Table 8.1). Similarly, approximately 70% or more of the women noted concern with psychological risks (Table 8.2). Therefore, regardless of the risk disclosure or the monetary compensation included on the advertisement, a majority of the women surveyed were concerned with the risks of egg donation. These results suggest that a different factor is associated with the loss of significant difference between risk disclosures with respect to a woman's likelihood to contact the company to become an egg donor.

One factor that could account for the type of risk disclosure no longer being significant with the consideration of Hypothetical Scenario 2 is monetary compensation. Monetary compensation could be an important factor associated with the change in how risk disclosures were perceived when women considered being in a financially vulnerable

position. The hypothetical results showed that monetary compensation remained a significant factor in a woman's likelihood to engage in the donation process when she imagined being financially vulnerable. Table 8.7 showed that when women considered Hypothetical Scenario 2, the mean likelihood that they would contact the company to learn more, contact the company to become an egg donor and contact the company (constructed variable) were significantly higher when they observed an advertisement that listed $10,000 compensation compared to $5,000 (Table 8.7). These results were similar to what was found in the initial results analysis (Table 7.4), indicating that the introduction of Hypothetical Scenario 2, in which women were asked to imagine being financially vulnerable, did not significantly change the association between monetary compensation and the likelihood women would engage in the donation process. Unlike risk disclosure, women appeared to take notice of and be influenced by the higher monetary compensation regardless of whether or not they imagined being in a financially vulnerable situation.

In addition to monetary compensation on its own having a significant association with a woman's willingness to engage in the donation process, monetary compensation also had an association with how the woman considered risk disclosures. When risk disclosure and compensation were evaluated together in Table 8.21, the results suggested that when a woman imagined being financially vulnerable, monetary compensation had the potential to influence a woman's consideration of the risks involved with egg donation. Specifically, the analysis found that when a woman received an advertisement with a general risk disclosure or any risk disclosure, she was significantly more likely to

contact the company when her advertisement also listed $10,000 compensation compared to $5,000 (Table 8.21).

This relationship between monetary compensation and risk disclosure was highlighted further with the regression analysis shown in Table 8.22. The regression showed that when women considered Hypothetical Scenario 2, women who viewed an advertisement with a general risk disclosure were significantly more likely to contact the company when the monetary compensation was increased from $5,000 to $10,000 (Table 8.22). Monetary compensation on its own was found to be associated with a woman's likelihood to contact the company, but these results also show that monetary compensation potentially influences a woman's consideration of risk disclosures, specifically when a woman imagines being in a financially vulnerable position.

Again, these results show that when a woman imagined being financially vulnerable, she became more comfortable with the risk disclosure or was willing to move forward despite the risk disclosure, presumably because of the additional $5,000 in compensation. Future studies should evaluate this in more depth to further define exactly how monetary compensation is altering, if at all, how a woman processes the risk disclosures. Perhaps higher monetary compensation results in a woman recognizing the risk disclosure but determining the benefits of donation (i.e. high compensation) outweigh any potential risks. Alternatively, the high compensation could blind women from even acknowledging or processing potential risks of egg donation. Either scenario has implications on determining how women process information they first observe on an advertisement and how such information influences their future decisions of whether or not they proceed with the egg donation process.

Conclusion

In general, the hypothetical analysis showed that a woman's financial situation was a significant factor when she considered whether or not she would engage in the donation process. Family and individual status were associated with a woman's willingness to participate in various activities related to egg donation. However, even more significant was the influence of the monetary compensation listed on an advertisement, specifically when a woman imagined being in a financially vulnerable position. Additional research is needed in this area given the limitations of the research involving hypothetical scenarios. However, these preliminary results found risk disclosure was no longer an important factor in the decision making process and the results suggested that monetary compensation could influence how a woman considered risk disclosures when she imagined being financially vulnerable.

This study was limited by the number of hypothetical scenarios that could be asked of the respondents, given the expected size of the survey sample. However, additional studies should further define and quantify what the financially vulnerable situation looks like for women of different economic statuses. Hypothetical Scenario 2 only asked the woman to imagine she was in a financially vulnerable position, but perhaps a woman's willingness to engage in the donation process would alter even more if she were also asked to imagine if her family was also struggling financially. A woman from a family of middle or upper economic status could respond very differently to risk disclosures and monetary compensation in a situation that removed her family as a financial source. It is important to explore further definitions around how vulnerable a woman must be before she is significantly influenced by monetary compensation. It is

also essential to determine more precise levels of monetary compensation that significantly increase a woman's willingness to proceed with the donation process. Such studies could provide further insight around how, if at all, advertisements unduly influence a woman to donate her eggs. These and similar implications of risk disclosure and monetary compensation at the advertisement level will be explored further in the concluding chapter.

CHAPTER 9: POLICY IMPLICATIONS AND CONCLUSION

Introduction

Infertility continues to be an increasing health problem for women worldwide, as was evident by the World Health Organization (WHO) defining infertility as a *disease* in 2009 (Zegers-Hochschild, et al., 2009). Egg donation has proven to be a valuable tool in addressing this health issue of infertility, particularly as a treatment for ovarian insufficiency and treatment for age-related decline in a woman's reproductive potential (Kawwass et al., 2013). Given the importance of egg donation, it is essential that the procedures related to recruitment, treatment, and compensation of egg donors continue to be monitored and evaluated. This is to ensure that a balance is maintained between the growing issues of infertility and the increasing use of egg donation and the need to ensure that the safety and autonomy of the egg donor is protected.

A primary ethical concern with egg donation is the assurance that a potential egg donor is able to make an autonomous choice and is given the opportunity to both understand and consider the benefits and risks of the donation process before deciding to proceed. However, there is a dearth of formal egg donation policies in the U.S. alongside professional guidelines that have recently been legally challenged, and as my research shows, are often not followed. This shows, at a minimum, the need for increased attention to the issues of egg donation. That could include increased oversight that supports egg donation as a valuable tool used to address the public health issue of infertility, while balancing this need with the protection of an egg donor's autonomy and her physical and emotional well being. Similar to participants in a clinical trial, egg donors receive

financial compensation for their donation but may not directly benefit from the results of their donation. Instead, their donation benefits another woman or couple struggling with infertility. Similar to the oversight that protects the rights of clinical research participants, oversight is needed to protect the autonomous choice of potential egg donors and to ensure that they are also protected from potential conflicts of interest and able to make better informed decision (DHHS, 2005; FDA, 2006).

This chapter discusses how the unique data presented in the analytical chapters have policy implications in several areas, to include: the practice of disclosing risks on advertisements at the earliest stage of the recruitment process; the influence that disclosing risks early on in recruitment has on a potential donor's willingness to engage in the donation process; the language and format of risk disclosures on recruitment advertisements; and the potential for egg donors to be unduly influenced by the monetary compensation listed on recruitment advertisements. Each of these areas will be discussed in relation to how the research results can contribute to the discussions or the development of oversight in these particular areas related to egg donation.

Current Landscape: Risk Disclosure on Recruitment Advertisements is Low

Before suggesting policy changes to when and how the risks of egg donation should be disclosed to potential egg donors, it is important to first examine the current practices. There is a dearth of studies within this area. Previous studies have examined compliance with various ASRM guidelines (Alberta et al., 2013; Hawkins, 2010; Keehn et al., 2012; Levine, 2010; Luk & Petrozza, 2008). These studies have primarily focused on the evaluation of compliance with donor age recommendations and financial

compensation offered to donors. Only a few studies have been identified that evaluated the inclusion of risk disclosure but this was on IVF clinic and egg donor agency websites (Keehn et al., 2012; Keehn et al., 2015; Carter et al., 2012).

To my knowledge, the analysis of Craigslist advertisements presented here is the first to evaluate compliance with the ASRM risk disclosure requirements on recruitment advertisements, such as those that appear online or in college newspapers. The Craigslist analysis showed that risk disclosure in egg donor recruitment advertisements is rare. A vast majority of the advertisements in the Craigslist dataset that included monetary compensation did not include a risk disclosure. The results also indicated that neither the current ASRM self-regulations nor the formal regulations implemented in California were successful in addressing this problem and increasing risk disclosure on egg donor recruitment advertisements (Figure 5.3). The ASRM regulations indicate that if a benefit, such as monetary compensation, is listed on an advertisement, a risk disclosure should also be acknowledged on the advertisement (ASRM, 2007). The results from my Craigslist analysis suggest there is an ethical and policy problem with the current risk disclosure practices on recruitment advertisements.

These results also identify a strong need for addressing why there is such a low rate of risk disclosure on egg donor recruitment advertisements. The vast noncompliance could be explained by low awareness of the ASRM self-regulatory guidelines and the California law on advertisements, low awareness of the rationale behind the guidelines and law, ineffective enforcement, or a combination of these issues. In addition, this could be the result of IVF clinics misunderstanding the California law and thinking they were exempt from including the risk disclosure clause on advertisements if they were an

ASRM member. However, ASRM members are required to follow the ASRM guidelines, which note that risks should be disclosed on advertisements when benefits are listed (ASRM, 2007). Therefore, all IVF clinics and egg donor agencies should include a risk disclosure statement according to the ASRM guidelines and the California law. It could also be helpful for ASRM and SART to perform an evaluation of its members with regard to their awareness and understanding of the current risk disclosure guidelines. This could help address the low rates of risk disclosure on egg donor recruitment advertisements and better inform the ways in which to increase risk disclosure on advertisements.

These are not the only issues that have been found with the ASRM guidelines. A recent settlement has been reached in *Kamakahi v American Society for Reproductive Medicine (2011),* which provides an opportunity for the ASRM guidelines on compensation and related issues to be revised. An egg donor filed the lawsuit against ASRM, SART, and all SART-member IVF clinics and egg donor agencies that agreed to follow the ASRM guidelines. The egg donor claimed the ASRM guidelines on compensation were an unfair burden to potential donors by fixing the prices that they could receive for donating their eggs (Krawiec, 2014). The settlement agreement requires ASRM to remove the compensation guidelines, which in turn removes the recommendation that compensation above $5,000 should be justified and compensation above $10,000 is inappropriate.

The proposed settlement of this lawsuit requires ASRM to change their guidelines on compensation, representing what Kingdon (1995) describes as a policy window. With this theory, three streams align to create and open a window of opportunity for policy

changes: a problem stream, a policy stream and a political stream (Kingdon, 1995). In this case, the problem stream is the claim that ASRM's fixed prices on compensation create a burden for potential donors. The policy stream is the alternative policies that can remove the compensation guidelines. The political stream is defined by policy makers being willing and able to make the policy changes, and in this case, ASRM will be required to do so under the legal settlement. Revisions of the ASRM compensation guidelines will be a requirement but this policy window can provide opportunities for the voluntary review and revision of other ASRM guidelines. The risk disclosure guidelines are within the compensation guidelines and provide an opportunity to address the ethical and policy problems of the low rate of risk disclosure on recruitment advertisements. This unique opportunity to make changes to the risk disclosure recommendations provides further support for ASRM and SART to perform close evaluations of their members' awareness and understanding of the current risk disclosure guidelines to address the issues of low risk disclosure compliance.

Thinking about how ASRM should respond to this policy window, it is important to evaluate whether or not risk disclosure at the earliest stage of the recruitment process, at the advertisement level, is essential. The results from my research show the importance of exploring risk disclosure on advertisements and the association risk disclosure has with a woman's likelihood to proceed with the donation process. From this evaluation, an assessment of the overall policy implications could then be made, along with recommendations for future risk disclosure guidelines.

Risk Disclosures Should be Included on Advertisements

Evaluating whether or not it is important to include risk on advertisements, the initial analysis of the survey showed risk disclosure on its own became significantly associated with a woman's likelihood to engage in the process once the activities became more involved for the respondent (i.e. contacting the company). Specifically, when a woman viewed an advertisement with general or any risk disclosure, she was significantly less likely to contact the company to take the next steps to become an egg donor compared to a woman who viewed an advertisement with no risk disclosure (Table 7.3). These survey results fill a gap in the literature, showing that inclusion of risk at the advertisement level can have a significant association with a woman's willingness to engage in the donation process. This significant association is important when a woman considers her willingness to contact the company to take the next steps to become an egg donor.

Additionally, the screening questions in the survey of female graduate students showed that in general, a majority of women in the sample (90%) had read or heard about egg donation prior to completing the survey and a majority had also seen an egg donor advertisement (58%) (Table 7.1). However, only 39% had considered donating their eggs and very few had actually donated their eggs (1%) (Table 7.1). These results are novel and show that 39% of female graduate students within this sample of Georgia universities are being exposed to egg donation, and specifically being exposed to egg donor recruitment advertisements. This, combined with the data showing risk disclosure on advertisements can be associated with a woman's immediate willingness to engage in the process, highlights the importance of ensuring the information presented on

advertisements is accurate, transparent and comprehensive. That could help enable potential egg donors to make more informed decisions about whether or not they engage with a donation.

The results showing risk disclosure on advertisements can be associated with a woman's willingness to engage in the donation process (Table 7.3) provide empirical support for previous claims that discuss the importance of disclosing associated donation risks before potential donors contact the company (Klitzman et al., 2008; Strong, 2001). This concept is rooted in the theoretical concept of the "anchoring heuristic" developed by Kahneman and Tversky (1979) that describes how initial information presented on an advertisement, for example, establishes the framework that influences how an individual processes and weighs information that could impact subsequent decisions. Identifying a significant association in my research between a woman's willingness to engage in more involved steps, like contacting the company, and both risk disclosure and monetary compensation suggest a woman can be influenced by the information presented on an advertisement (Tables 7.3 & 7.4). Therefore, the initial information on an advertisement may help frame a potential egg donor's willingness to participate in the donation process and contribute to her ability to make an autonomous decision. If we want potential egg donors to assume the risks and benefits of donation only after being given an informed opportunity to weigh them, the initial survey results help show the impact of disclosing risk early in the recruitment process and provide further justification for the risk disclosure requirements in the most recent ASRM guidelines (ASRM, 2007) and the California law.

It is therefore important for ASRM, SART and the California government to address the ineffectiveness of the current self-regulations and formal regulatory law identified with the Craigslist analysis (Figure 5.3). The widespread noncompliance with the ASRM guidelines and the slightly better, but still low, compliance with the California law suggest that additional oversight may be necessary to improve compliance and increase risk disclosure on advertisements (Figure 5.3). The low compliance with the California law found in the Craigslist analysis suggests that formal regulation may not be the immediate solution. Therefore, an alternative, low cost approach might be a more stringent evaluation of IVF clinics that are members of SART and have signed an agreement with SART to follow the ASRM ethical guidelines. This evaluation could be performed by ASRM or SART and the IVF clinics that either follow, or fail to follow, the ASRM guidelines can be identified on the ASRM or SART website. If being a member of SART requires IVF clinics to follow the guidelines, the results from my research show there is a need for these clinics to be monitored more closely by ASRM and SART and such transparency on the website could also provide potential donors with more information about the IVF clinics seeking their participation. If however, formal regulation were developed, the low compliance with the California law also suggests that the law should be clarified to address any misunderstandings, outlined above, or enforcement efforts need to be increased by the state government and the penalties for noncompliance must be specified within the law.

Advertisements Should Include *Specific* Risks Disclosures

The survey results showed risk disclosure advertisements had a significant association with a woman's willingness to engage in the donation process (Table 7.3), supporting the claim that if the potential risks of egg donation should be included on an advertisement, specifically when they include monetary compensation. The next question then is what information the risk disclosure should include to better inform potential donors. The results from my survey research provide insight into what information should be included in a risk disclosure on a recruitment advertisement. In both the initial and hypothetical survey analyses, women who viewed an advertisement with a general risk disclosure were significantly less likely to contact the company than women who viewed an advertisement with no risk disclosure (Tables 7.3 & 8.22). No significant differences were found between advertisements that listed no risk and those that included a specific risk disclosure.

These findings from my survey analyses support the idea that risk disclosures should be more specific about the potential risks involved with egg donation to better inform potential donors rather than provide a general statement that only acknowledges risks are possible with the donation process. In my survey, the general risk disclosure was found to significantly decrease a woman's willingness to engage in the donation process and thus it both did not serve the purpose of meeting the needs of infertile couples nor of informing and respecting the autonomy of potential donors (Tables 7.3 & 7.24). A concern with providing specific risk disclosures may be that such transparency at the advertisement level reduces the effectiveness of recruitment and therefore the ability of IVF clinics and egg donor agencies to meet the needs of women and couples struggling

with infertility. However, the results from my survey suggest that listing specific details about the potential risks (i.e. "bleeding, infection, and ovarian hyperstimulation syndrome…increased risk of developing cancer") did not significantly decrease a woman's willingness to engage in the various steps of the donation process. Instead, little difference was found in a woman's likelihood to engage in the donation when she viewed an advertisement with no risk disclosure or a specific risk disclosure (Tables 7.3 & 7.24).

The disclosure mandated by California law was not a specific risk disclosure. To review, the risk disclosure clause required by the California law states:

> *Egg donation involves a screening process. Not all potential egg donors are selected. Not all selected egg donors receive the monetary amounts or compensation advertised.* ***As with any medical procedure, there may be risks associated with human egg donation.*** *Before an egg donor agrees to begin the donation process, and signs a legally binding contract, she is required to receive specific information on the known risks of egg donation. Consultation with your doctor prior to entering into a donor contract is advised."*

The language of this California risk disclosure clause closely resembles how the general risk disclosure language was categorized for the purposes of my study. The survey results that showed women who viewed an advertisement with a general risk disclosure were less likely to contact the company compared to women who viewed no disclosure support the idea that the general acknowledgement of the risks could actually significantly decrease a potential donor's likelihood of engaging in the donation process (Tables 7.3 & 7.24).

The author of the original version of the California Law indicated the purpose of the law was "to help women make an informed decision", which was in response to the concerns that financial incentives "may unduly influence the judgment of young women" (Miller, 2009). The survey results showing no significant difference in engagement between women who view an advertisement with no risk disclosure and those who view a specific risk disclosure indicate that advertisements could include more details and specificity on the potential risks of egg donation to fulfill these ethical concerns regarding potential donors being informed about the risks of donation, even at the earliest stages of recruitment (Tables 7.3 & 7.24). In addition, these results suggest that potential ethical concerns can be addressed with a specific risk disclosure without significantly reducing the effectiveness of advertising recruitment efforts and the corresponding capacity to help individuals and couples struggling with infertility. If ASRM risk disclosure guidelines will continue to support the listing of risks on advertisements that also include the benefits of donation, the updated risk disclosure guidelines should clearly recommend a *specific* risk disclosure be included on the advertisement. Similarly, if issues with the California law were raised and the opportunity was available to revise the risk disclosure statement, these survey results showing a significant association between risk disclosure and engagement in the donation process provide preliminary justification for revising the risk disclosure clause and including more specific details on the potential risks of egg donation.

However, additional research is needed with regard to the particular details and language used in the specific risk disclosure. My study was limited to the assessment of one type of specific risk language, given the limitations of the sample size. However, a

variety of specific risk language should be evaluated to determine what language better informs potential donors without reducing the effectiveness of the advertising recruitment efforts. This should involve an evaluation of including the potential psychological risks of egg donation. The mock advertisement created for the survey did not note psychological risks. However, in addition to the physical risks, ASRM and the Institute of Medicine formally recognized egg donors were also at risk of experiencing potential psychological risks (ASRM, 2007; IOM, 2007). This formal recognition of the potential psychological risks associated with egg donation shows the need to explore how, if at all, they are included in a risk disclosure statement.

The most recent, formal analysis of the risks associated with egg donation was completed by the Institute of Medicine in 2007 (IOM, 2007) but the results from my survey analyses indicate the need for a more current evaluation of egg donation. The Institute of Regenerative Medicine, Institute of Medicine and the National Research Council appointed the original committee and the support for including specific risk disclosure language on egg donor advertisements highlights the need for another committee to be assembled to discuss and explore the most recent data on the potential risks associated with egg donation. The committee should focus on the medical and scientific data currently available and also evaluate areas where more research should be done. An evaluation such as this would provide a more current and comprehensive summary of the risks associated with egg donation, given advancements in ART techniques and technologies. This information could then influence the details included in a specific risk disclosure on recruitment advertisements.

Referring back to the Craigslist analysis, the results showed the risk disclosure clause in the California law had an indirect influence on advertisements placed outside of California (Table 5.4). In addition, a majority of the Craigslist advertisements (67/68) with a risk disclosure statement used the California risk disclosure clause. This result suggests it may be helpful to also include recommended risk disclosure language in the ASRM guidelines. Providing standard specific risk disclosure language could improve awareness and therefore compliance with the ASRM guideline and could provide an easily replicated means for satisfying the risk disclosure requirement.

Potential Egg Donors are *at Risk* of Being Unduly Influenced When Financially Vulnerable

The results from my research also add to the discussions around the literature concerning undue influence. A simple inducement is the offer of a good meant to change behavior. It is recognized that individuals are offered desirable goods and simple inducements everyday that are meant to cause a change in their behavior (Grant & Sugarman, 2004). The term "undue" is added to inducements when the offer is excessive and leads to poor judgment, making the individual engage in an activity that could cause unreasonable and serious adverse effects to the individual (Emanuel et al., 2005). The challenge is defining when an offer is excessive and constitutes an undue inducement or influence.

Emanuel (2004) recognizes that there is an interaction between the risks of serious harm and the offered incentive that is a central factor in determining undue inducement. However, there is also little discussion in the literature that specifically describes the relationship between risk and incentive or operationalizes the interaction between the

two. The survey analyses in my research examined this interaction between risk disclosure and the monetary compensation offered to potential egg donors, specifically with the regression analyses (Tables 7.15 and 7.25). In the initial regression analyses, there was evidence that women, particularly women from a family of low economic status, were influenced by a higher financial compensation and were significantly more likely to contact the company (Table 7.25). However, this influence could not be characterized as an undue influence. There was no indication that when a woman viewed an advertisement with $10,000 compensation, the higher compensation would result in the dismissal of the risk disclosure listed on the advertisement. In this case, women were also significantly more likely to contact the doctor about the risks of egg donation when they viewed an advertisement with the higher compensation.

However, when a woman considered Hypothetical Scenario 2 and imagined herself in a financially vulnerable position, the regression results suggested that the monetary compensation listed on an advertisement could become an undue inducement (Table 8.22). Given Hypothetical Scenario 2, when a woman viewed an advertisement with a general risk disclosure, she was significantly less likely to contact the company than a comparable woman who viewed an advertisement with no risk disclosure, holding compensation constant (Table 8.22). However, the likelihood that a woman who viewed an advertisement with a general risk disclosure would contact the company significantly increased when the compensation on the advertisement increased from $5,000 to $10,000. This was evidence that a woman was influenced by the higher compensation when she imagined she was in a financially difficult position and also that the higher compensation outweighed the potential risks noted in a general risk disclosure. While not

significant, the same relationship was observed between compensation and specific risk disclosure (Table 8.22).

The novel results of the hypothetical regression analysis highlight how a woman's financial situation has the potential to be a significant factor in her decision of whether or not to proceed with the egg donation process. When a woman imagines herself in such a position, she shows an increased potential to be unduly influenced by the monetary compensation listed on the advertisement. The higher monetary compensation could result in a woman recognizing the risk disclosure but determining the benefits of donation (i.e. high compensation) outweigh any potential risks. Alternatively, the high compensation could blind women from even acknowledging or processing potential risks of egg donation. Either scenario has implications for how women process information they first observe in an advertisement and how such information influences their future decisions whether or not to proceed with the egg donation process. Although my survey did not include enough respondents who were, in fact, in a financially vulnerable position to allow a determination of potential undue influence reflected in initial responses, the hypothetical regression results provide some evidence that this may be the case. A future study including a larger sample of financially vulnerable women could provide additional evidence.

The National Advisory Board on Ethics in Reproduction (NABER), or an equivalent, is an organization that could perform the suggested study on the potential undue inducement of financially vulnerable egg donors. NABER was an independent, private, not-for-profit board created in 1991 by the American College of Obstetricians and Gynecologists and the American Fertility Society. It was created with the intent to

review and comment on the ethical issues related to the use of the current reproductive technologies. Their last report was published in 1997 and the organization was essentially closed in 1998. With the advancements in ART technologies and techniques since 1997, an equivalent board could be created again to perform a more current analysis of the modern ethical issues related to egg donation, to include this possible risk of undue inducement of women from financially vulnerable populations.

My survey analysis varied the monetary compensation listed on the mock advertisement from $5,000 to $10,000. Because significant differences were found between $5,000 and $10,000 compensation, the results suggest women in financially vulnerable positions are at risk of being unduly influenced by monetary compensation somewhere between the $5,000 and $10,000 range. We see from the Craigslist analysis that the average single compensation listed on recruitment advertisements is within this range (Figure 5.2). In advertisements that listed a single compensation rate per donation, egg donor agencies and IVF clinics showed a similar average single compensation rate of approximately $7,000 per donation, which is above the $5,000 that ASRM originally recommended (Figure 5.2) (ASRM, 2007). However, the Craigslist sample also showed personal egg donor recruitment advertisements, in particular, that listed up to $50,000 compensation per donation. Future studies should evaluate financial compensation further to determine the monetary levels at which not only financially vulnerable women, but also women from families of middle and upper economic statuses are more likely to engage in the donation process.

As previously discussed, the recent settlement in the lawsuit against ASRM will make such voluntary restrictions on financial compensation—one possible approach to

limiting the possibility of undue influence—illegal (*Kamakahi v American Society for Reproductive Medicine, 2011*). Another option to address the issue of potential undue influence is enhancing oversight of the risks being disclosed to potential donors, starting at the advertisement level. As previously discussed, specific risk disclosure language can be included on recruitment advertisements without reducing the willingness of women to proceed in the egg donation process. However, to protect financially vulnerable women who might not acknowledge or process the specific risk disclosure clause because of the high compensation listed on an advertisement, additional oversight should be implemented at the egg donor agencies and IVF clinics with regard to the distribution and comprehension of the potential risks. ASRM and SART should provide this oversight over IVF clinics and egg donor agencies, particularly over those that are ASRM members. In California, additional oversight could be provided through a special ART reproductive task force or advisory group, similar to the New York Task Force on Life & the Law that has conducted extensive research on reproductive issues, such as egg donation.

While the settlement in the lawsuit against ASRM makes it illegal for the organization to recommend voluntary price caps on egg donor compensation, it is also unlikely that we will see any immediate formal regulation implemented that restricts the maximum compensation provided to egg donors. However, the removal of the voluntary price caps could have an impact on what the future egg donor market will look like. There is the potential for the establishment of a free market system. Supporters of this structure argue that IVF clinics and egg donor agencies should be permitted to establish their own "reasonable" compensation for egg donors (Krawiec, 2014). The concern with

providers determining "reasonable" compensation for egg donors is that "reasonable" can be defined in various ways and without a price cap, there is an increased risk that compensation to egg donors could differentiate widely, dependent on a desired donor's characteristics (Klitzman & Sauer, 2015). Such practices have already been noted in previous research that found women with a higher average SAT score were offered significantly higher compensation than comparable women with lower average SAT scores (Levine, 2010).

This concern of donor qualities influencing compensation, rather than the risks of egg donation, highlights the need to evaluate and address the results from my survey that show particular donor populations could be at risk of being unduly influenced by the compensation listed on advertisements (Table 8.22). However, if such differentiation in compensation were to occur without price caps, the concern of women being unduly influenced by compensation would extend beyond financially vulnerable populations and also includes women with highly sought after donor characteristics. This highlights the increasing ethical concerns that can arise with the removal of price caps and supports the need for future studies that evaluate financial compensation further to determine the monetary levels at which potential donors of various backgrounds are more likely to be motivated by the compensation and engage in the donation process.

Additionally, the removal of price caps calls for the careful evaluation and consideration of egg donation as a form of clinical labor. In some ways, egg donation is arguably categorized as clinical labor in the U.S., given that the compensation is viewed as taxable income. In January 2015, the U.S. Tax Court ruled in favor of the Internal Revenue Service that the $20,000 a California woman received for donating her eggs was

compensation, not damages, and therefore taxable income (*Perez v. Commissioner of Internal Revenue, 2015)*. Cooper & Waldby (2014) argue that egg donation as a form of clinical labor is highly stratified according to class and race, indicating that these ethical concerns with compensation differentiation are already being experienced. Others that also view egg donation as a form of labor indicate a need for egg donors to be offered the same protections provided to traditional workers in labor contracts, to include an appropriate wage and insurance (Lemmens & Elliot, 1999; Anderson & Weijer, 2002). Egg donation as a form or a potential form of clinical labor is another area that NABER, or an equivalent committee, should evaluate further to identify the ethical concerns and then provide recommendations for how those concerns should be addressed, with or without formal regulation.

In the absence of voluntary or formal restrictions on egg donor compensation, additional and more thorough information about the egg donation process should be provided to each potential egg donor during their first engagement with the company, whether it is at an information session or a first appointment. This could be in the form of an information booklet, similar to the *Guidebook for Egg Donors* (1998) that was published by The Advisory Group on Assisted Reproductive Technologies of the New York State Task Force on Life & the Law. In 1998, the Task Force conducted extensive research and found that egg donors were frequently not adequately informed about the donation process and therefore created the booklet as a resource for egg donor agencies and IVF clinics to distribute to potential donors. This material could be an accessible and valuable resource for women, as they decide whether or not to donate their eggs.

However, to ensure that women engage with the material and understand the information, especially the information regarding the risks of donation, egg donor agencies and IVF clinics should provide in-person counseling. A previous prospective study of egg donors concluded that it was possible to achieve better informed consent especially when potential donors engaged in intensive counseling prior to donation (Skillern et al., 2013). This counseling would be distinct from the counseling that is sometimes provided during the screening process and could help women, particularly those at risk of being unduly influenced, fully comprehend the information provided to them. Additionally, it would allow the egg donor agencies and IVF clinics to ensure that a woman considered the risks of donation and not just the personal financial gains of donation.

The Relationship Between the Physician and the Donor

The survey of female graduate students asked women to indicate their likelihood of searching for the benefits and the risks associated with egg donation via Internet searches, a doctor or healthcare professional, or the company that placed the mock advertisement. To my knowledge, there is no empirical research that has evaluated the sources most commonly utilized by women to learn about the egg donation process. In both the initial and hypothetical analyses, women were significantly more likely to search the Internet about the risks of egg donation compared to contacting a doctor or the company about the risks (Tables 7.2 & 8.3). Knowing that women are significantly more likely to search the Internet for the risks of egg donation helps inform the development of policies that can directly address the information presented on the IVF clinic and egg donor agency websites. Previous research by Keehn et al. (2012) assessed approximately

400 IVF clinic and egg donor agency websites and found that a majority (56%) did not present the risks on the website when monetary compensation was listed.

These results from the survey analyses showing women are more likely to search the Internet than contact the doctor or the company about the risks of egg donation has several policy implications. As previously mentioned, the results show the importance of ensuring the information presented on egg donor agency and IVF clinic websites is accurate and comprehensive. The framing of the information is also important, as was discussed in relation to the presentation of information on recruitment advertisements. This is to help prevent potential egg donors from being biased by the framing of information, encouraging them to participate in the donation process without sufficient opportunity for prior reflection on the risks and benefits. However, a potential conflict of interest is recognized with egg donor agencies and IVF clinics being the primary source of information on the egg donation process while also actively recruiting women to donate their eggs. This highlights the need for a third party resource that could provide information about the egg donation process, including the potential risks, in an accurate and neutral manner. Potential third parties could include a government task force, similar to the New York Task Force that published the *Guidebook for Egg Donors* (1998) or a government agency, such as the CDC. Additional third party options, not affiliated with the government, include the online community of egg donors, *We are Egg Donors,* or The National Infertility Association, RESOLVE, a non-profit organization that promotes reproductive health.

There are also implications related to the potential conflict of interest with the unique physician-donor relationship found with egg donation (Blake et al., 2015). It is

typical for the physician of the egg donor to also serve as the physician for the recipient(s) who is to receive the medical benefits (i.e. the donated eggs). The potential conflict of interest includes a conflict of commitment, as there is one doctor providing care to two different parties that have different interests (Dickens & Cook, 2006). With egg donation, the interests of the donor and the recipient can often diverge or conflict and the physician serving both parties is challenged to balance the needs of each party (Kalfoglou & Geller, 2000). In addition, the physician might have financial incentives to focus more on the interests of the recipients than the donors (Kalfoglou & Geller, 2000). There are also concerns that a physician may fail to clearly disclose or describe to the egg donor all of the medical risks associated with the donation process due to the physician's focus on the interests of the recipient rather than the donor (Daar, 2001).

Despite the ethical concerns with these relationships, there are no current policies that directly address how to properly manage the relationship and ensure that the best interests of both recipients and donors are fully protected. The ASRM ethical guidelines acknowledge the unique physician-donor relationship where the physician could "encounter conflicts in promoting the interest of both parties" and recommends that mechanisms be developed to ensure both donors and recipients are treated fairly (ASRM, 2007). It has been argued that improved oversight could help reduce the potential impact that these conflicts could have on a donor's well being (Blake et al., 2015). One approach is to develop the ASRM guidelines further to detail the possible conflicts of interest they currently mention and they could also provide specific and clear mechanisms to address any conflicts of interest that arise throughout the egg donation process. As mentioned previously, if NABER was assembled again, this conflict of interest between the

physician and donor is another ethical concern that the ethics board should evaluate to better inform how to address and manage this unique relationship.

Broader Implications on Egg Donation and ART

This study has potential implications for other areas related to the egg donation process. The first relates to additional studies on the risks of egg donation. There are few studies that have evaluated the long-term risks associated with egg donation, making it difficult to accurately discuss the likelihood that any of the physical or psychological risks associated with egg donation will occur in a donor (Bodri et al., 2008; Althius et al., 2005; Jayaprakasan et al., 2007). Without the long-term risks of egg donation being fully understood by specialists or the donor, there is concern that potential donors are unable to make truly informed decisions when deciding whether to participate in the donation process (Woodriff et al., 2014). Gezinski et al. (2015) also called for future research to include longitudinal designs to evaluate the impact that egg donation had on both the donors and the children conceived through egg donation. This provides further support for the need of a more current Institute of Medicine report of the medical and scientific data on the risks associated with egg donation that could better inform the issue of whether more formal risk disclosure regulation is needed. If the potential risks of egg donation were significantly greater than are currently known, this would justify the need for more comprehensive risk disclosure and enforcement of risk disclosure by ASRM and SART. This finding would suggest that the ASRM guideline on risk disclosure is warranted. Additionally, it would support the need to address the widespread

noncompliance my Craigslist analysis found with the ASRM and California law risk disclosure requirements.

To support this research, the CDC might also consider collecting additional information on egg donors, as apart of their yearly National ART Surveillance System (NASS) Data Collection and Reporting. The results of my hypothetical analysis suggest there is value in the CDC collecting information on women's economic status to further evaluate how women from low economic status experience the donation process. This could provide more insight into whether women who are financially vulnerable are at risk of being unduly influenced, which if found to be true, would provide justification for additional oversight regarding the distribution and comprehension of the potential risks associated with egg donation.

The results from my research can also inform the information included on recruitment advertisements for gestational carriers. Gestational surrogacy is another successful means utilized for helping women and couples struggling with infertility (Kapfhamer & Bradley Van Voorhis, 2016). However, similar to egg donation, there are concerns with the commodification of women who serve as carriers and the potential undue inducement at the prospect of receiving $60,000 compensation for one cycle (Kapfhamer & Bradley Van Voorhis, 2016). The responsibilities and the commitment required of a gestational carrier are considerably greater than what is required of an egg donor and ASRM also has guidelines that recognize the need to protect the health and safety of gestational carriers (ASRM, 2015). However, there are no recommendations on what risks should be included on recruitment advertisements. Therefore, the results of my study could have similar implications on the risk disclosure requirements for

advertisements that recruit for gestational carriers. Additionally, my research suggests that future studies should also evaluate how, if at all, women are financially influenced by the high compensations offered for being a surrogate and evaluate if financially vulnerable women are at risk for being unduly influenced by the large sums listed on advertisements.

Conclusion

Egg donation has proven to be a valuable tool in addressing the health issues with infertility. Given the importance of egg donation, it is essential that the procedures related to recruitment, treatment, and compensation of egg donors continue to be monitored and evaluated. The results of my research have several policy implications that address these particular areas related to egg donation. The results from the Craigslist analysis showed that risk disclosure in egg donor advertisements is rare and that neither the current ASRM self-regulations nor the formal regulations implemented in California were successful in addressing this problem. There is a unique policy window, providing the opportunity for risk disclosure guidelines to be changed. The results from the survey analysis provided empirical support for the argument that risk disclosures should be included on advertisements, especially when a monetary compensation is listed. However, there is a need for IVF clinics that are SART members to be monitored more closely and their fulfillment of the ASRM guidelines specified on the ASRM or SART website.

The survey results also showed that advertisements should include risk disclosures that are specific about the potential risks involved with egg donation rather than provide a general risk statement that only acknowledges potential risks. The

inclusion of specific risks can fulfill the ethical concerns regarding potential egg donors without significantly reducing the effectiveness of advertising recruitment efforts and the corresponding capacity to help individuals and couples struggling with infertility. It may be helpful to include recommended risk disclosure in the ASRM guidelines when they are revised to improve awareness and compliance.

Additionally, the hypothetical analysis in particular showed how potential egg donors are *at risk* of being unduly influenced when they are financially vulnerable. Additional research is needed in this area given the limitations of the research involving hypothetical scenarios. However, reasonable policy recommendations to address the potential risk of undue inducement include the enhanced oversight of the risks disclosed to potential donors, starting at the advertisement level. Additionally, potential donors should be provided more thorough information during their first engagement with the company, to include informational booklets and in-person counseling.

The results from my research, in relation to these ethical and policy issues, provide insight into the discussions or the development of oversight on issues related to egg donor recruitment. The recommendations are to ensure that a balance is maintained between the growing issues of infertility and the increasing use of egg donation and the need to ensure that the safety and autonomy of the egg donor is protected.

APPENDIX A: UNIVERSITY GRADUATE PROGRAMS SEARCHED FOR FEMALE GRADUATE SURVEY SAMPLE

Table A1. University Graduate Programs Searched for Female Graduate Sample

Emory University	**Students Found**	**# of Students Found**
Anthropology	✔	34
Art History	✔	34
Behavioral Sciences and Health Education		
Biological and Biomedical Sciences	✔	287
Bioethics		
Biomedical Engineering		
Biostatistics		
Business		
Chemistry		
Clinical Psychology		
Clinical Research		
Cognition and Development (Psychology)		
Comparative Literature		
Computer Science and Informatics		
Development Practice		
Digital Scholarship and Media Studies		
Economics		
Educational Studies	✔	24
English	✔	34
Environmental Health Sciences		
Environmental Sciences		
Epidemiology		
Film and Media Studies		
French		
Graduate Institute of Liberal Arts	✔	30
Health Services Research and Health Policy		
History	✔	29
Human Rights		
Injury and Violence Prevention		
Islamic Civilizations Studies		
Jewish Studies		
Mathematics	✔	30
MD/PhD		
Medieval Studies		
Mind, Brain, and Culture		
Music		
Nursing		
Nutrition and Health Sciences		
Philosophy	✔	22
Physics		
Political Science	✔	26
Psychoanalytic Studies	✔	58
Religion		
Sociology	✔	25
Spanish		
Women's, Gender, and Sexuality Studies		
Georgia Tech		

Aerospace Engineering		
Analytics		
Applied Physiology		
Applied Systems Engineering		
Architecture		
Bioinformatics		
Biology	✔	60
Biomedical Engineering	✔	12
Building Construction/Facility Management		
Chemical and Biomolecular Engineering	✔	3
Chemistry and Biochemistry	✔	76
City and Regional Planning		
Civil Engineering		
Computational Science and Engineering		
Computer Science		
Digital Media		
Earth and Atmospheric Science	✔	40
Economics	✔	13
Electrical and Computer Engineering		
Environmental Engineering		
Geographic Information Science and Technology		
Health Systems		
History and Sociology of Technology and Science	✔	12
Industrial and Systems Engineering		
Information Security		
International Affairs		
Management		
Materials Science and Engineering		
Mathematics	✔	63
MBA		
Mechanical Engineering		
Music Technology		
Nuclear and Radiological Engineering		
Paper Science and Engineering		
Physics	✔	13
Prosthetics and Orthotics		
Psychology	✔	79
Public Policy		
Statistics		
Supply Chain Engineering		
Systems Engineering		
Urban Design		
University of Georgia		
Adult Education		
Agricultural and Applied Economics	✔	41
Animal and Dairy Science		
Anthropology	✔	33
Art		
Biochemistry and Molecular Biology	✔	23
Bioinformatics		
Biological and Agricultural Engineering		
Biostatistics		
Business Administration		

Cellular Biology	✔	21
Chemistry	✔	79
Clinical and Administrative Pharmacy		
Communication Sciences and Disorders	✔	29
Comparative Literature		
Computer Science	✔	26
Counseling and Student Personnel Services		
Early Childhood Education		
Ecology		
Economics		
Educational Administration and Policy		
Engineering	✔	15
English	✔	45
Environmental Design and Planning		
Environmental Health		
Epidemiology		
Food Science		
Foods and Nutrition		
Genetics	✔	23
Geography		
Geology		
Higher Education		
History	✔	16
Human Development and Family Science	✔	106
Infectious Diseases		
Kinesiology		
Language Education	✔	40
Linguistics	✔	16
Marine Sciences	✔	19
Mass Communication		
Mathematics	✔	11
Microbiology	✔	44
Middle School Education		
Music		
Neuroscience		
Pharmaceutical and Biomedical Sciences		
Pharmacology		
Philosophy	✔	12
Physics		
Physiology		
Plant Biology	✔	23
Political science and International Affairs	✔	98
Psychology	✔	83
Public Administration and Policy		
Public Health		
Social Work		
Sociology	✔	22
Special Education		
Statistics	✔	30
Theatre and Film Studies		
Toxicology		
Veterinary and Biomedical Sciences	✔	45

APPENDIX B: DESCRIPTION OF SURVEY VARIABLES, MEASURES, AND SCALES

Table B1. Description of Variables, Measures and Scales.

Variable	*Measures*	*Scale*
Willingness to Participate	Likelihood to do the following: • Search the Internet to learn about egg donation • Search the Internet to learn about any benefits of egg donation • Search the Internet to learn about any risks of egg donation • Search the Internet to learn about the company that placed the advertisement • Contact a doctor or other healthcare professional about any benefits of egg donation • Contact a doctor or other healthcare professional about any risks of egg donation • Contact the company listed on the advertisement to learn more information about becoming an egg donor • Contact the company to take the next steps in becoming an egg donor	0=extremely unlikely to 10=extremely likely
Perception of Associated Risks	Likelihood to do the following: • Search the Internet to learn about any risks of egg donation • Contact a doctor or other healthcare professional about the risks of egg donation Level of concern, as an egg donor with any risks: • Any physical risks from donating eggs • Any psychological risks from donating eggs	Likelihood: • 0=extremely unlikely to 1=extremely likely Level of Concern: • 1=not at all concerned to 10=extremely concerned
Risk Aversion Scale	Likelihood to engage in the following activities: • Drinking heavily at a social function • Driving a car without wearing a seat belt • Riding a motorcycle without a helmet • Sunbathing without sunscreen	1=extremely unlikely to 7=extremely likely
Altruism Scale	Frequency to engage in the following activities: • Give money to charity • Donate clothes or good to a charity • Donate blood • Let a neighbor you did not know well borrow an item of value from you • Voluntarily look after a neighbor's pet or	0=never to 4=very often

	children without being paid	
Additional Characteristics	• Current enrollment status • Degree student is working toward • Primary field of study for degree • Relationship status • Children (if yes, number of children) • Age • Race/Ethnicity • Religious Affiliation • Economic status of family • Economic status of respondent	

APPENDIX C: SURVEY

Consent

Hello,

You are being asked to participate in a research study of health communication and the recruitment of women for egg donation. We expect to enroll approximately 1,500 current or recently graduated female graduate students in a variety of fields of study. The survey should take no more than 5 minutes to complete. Hillary Alberta, supervised by Aaron Levine, is conducting this study and is a PhD candidate in the School of Public Policy at Georgia Tech. Your participation is greatly appreciated.

There is no cost to you, other than your time, for completing the survey and the only risk that may occur is the inadvertent release of the answers/information you provide. Several steps will be taken to minimize this risk, such as storing your personal information securely and separately from the survey responses. Data will be reported in aggregate and your name or other identifying details will not appear when results of this study are reported and/or published.

Your participation in this study is voluntary, and you can change your mind and leave the study at any time and for any reason, without penalty. By consenting, you do not waive any of your legal rights.

Everyone who completes the survey will be entered into a drawing to win one of four $25 Starbucks gift certificates. (If you would like to enter the drawing without completing the survey, please email Hillary Alberta at halberta3@gatech.edu with this request and indicate your name, email and current university in your message.)

If you have any questions about this study, you may contact Hillary Alberta at halberta3@gatech.edu. The researcher's advisor is Dr. Aaron Levine and can be reached at aaron.levine@pubpolicy.gatech.edu. If you have any questions about your rights as a research participant, you may contact Ms. Melanie Clark at (404) 894-6942.

Please click "Next" to indicate that you have read the above information and consent to participate in the study.

Next

Section 1—Screening

Thank you for agreeing to participate in this research study. This survey on egg donor advertisements is intended for female students only. To begin, are you…

- Male
- Female

IF Male, the survey will end.
IF Female, the survey continues to the proceeding questions.

The following questions help us to better understand your prior exposure to assisted reproduction. Please answer Yes or No for each question.

Prior to completing this survey:

Question	**Yes**	**No**
6. Have you read or heard about egg donation for assisted reproduction?		
7. Have you seen or heard an egg donor recruitment advertisement?		
8. Have you considered donating your eggs?		
9. Have you donated your eggs?		
10. Do you know someone who has donated her eggs?		

Section 2—The Advertisement

Assume the following egg donor recruitment advertisement appears in your college newspaper. Please take a moment to look at and read through the advertisement. On the following pages, you will be asked a series of questions related to this advertisement.

Advertisement

Section 3—Willingness to Participate

The next few questions focus on your reactions to the advertisement.

On a scale from 0-10, with 0 being extremely unlikely and 10 being extremely likely, please indicate your likelihood to do each of the following:

11. Search the Internet to learn about egg donation.
12. Search the Internet to learn about any benefits of egg donation.
13. Search the Internet to learn about any risks of egg donation.
14. Search the Internet to learn about the company that placed the advertisement.
15. Contact a doctor or other healthcare professional about any benefits of egg donation.
16. Contact a doctor or other healthcare professional about any risks of egg donation.
17. Contact the company listed on the advertisement to learn more information about becoming an egg donor.
18. Contact the company to take the next steps in becoming an egg donor.

□0 □1 □2 □3 □4 □5 □6 □7 □8 □9 □10

Extremely Unlikely > Neither Unlikely or Likely > Extremely Likely

*Formatting Note: Will make a table with the scale to the right and the questions on the left or the scale will be listed individually for each question. This is dependent on the survey program.

Section 4—Hypothetical Scenario Questions

You are now going to be asked a few hypothetical questions. Each of the questions requires you to recall the advertisement that you were first shown.

Assume you are seriously considering donating your eggs. On a scale of 0-10, with 0 being not at all concerned and 10 being extremely concerned, please indicate your level of concern, as an egg donor, with any risks:

19. Any physical risks from donating eggs.
20. Any psychological risks from donating eggs.

□0 □1 □2 □3 □4 □5 □6 □7 □8 □9 □10

Not at all Concerned > Minimally Concerned > Neither Concerned nor Unconcerned > Moderately Concerned > Extremely Concerned

Now assume you are a full-time college student with a part-time job that doesn't cover all of your monthly expenses. You come across the advertisement you were first shown.

On a scale from 0-10, with 0 being extremely unlikely and 10 being extremely likely, please indicate your likelihood to do each of the following:

21. Search the Internet to learn about egg donation.
22. Search the Internet to learn about any benefits of egg donation.
23. Search the Internet to learn about any risks of egg donation.
24. Search the Internet to learn about the company that placed the advertisement.
25. Contact a doctor or other healthcare professional about any benefits of egg donation.
26. Contact a doctor or other healthcare professional about any risks of egg donation.
27. Contact the company listed on the advertisement to learn more information about becoming an egg donor.
28. Contact the company to take the next steps in becoming an egg donor.

□0 □1 □2 □3 □4 □5 □6 □7 □8 □9 □10

Extremely Unlikely > Neither Unlikely or Likely > Extremely Likely

Section 5—Risk Aversion and Altruism

The following questions ask you to consider your likelihood of participating in various activities unrelated to egg donation.

On a scale from 1-7, with 1 being extremely unlikely and 7 being extremely likely, please indicate the likelihood that you would engage in the described activity or behavior if you were to find yourself in the situation.

29. Drinking heavily at a social function.
30. Driving a car without wearing a seat belt.
31. Riding a motorcycle without a helmet.
32. Sunbathing without sunscreen.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Somewhat Unlikely	Not Sure	Somewhat Likely	Moderately Likely	Extremely Likely

The next few questions ask you to consider the frequency that you would engage in various activities unrelated to egg donation.

On a scale from 0-4, with 0 being never and 4 being very often, please indicate how often you would exhibit the following behaviors.

33. Give money to a charity.
34. Donate clothes or goods to a charity.
35. Donate blood.
36. Let a neighbor you did not know well borrow an item of value from you.
37. Voluntarily look after a neighbor's pet or children without being paid.

□0	□1	□2	□3	□4
Never	Once	More than Once	Often	Very Often

Section 6—Demographics

You've reached the last few questions of the survey! Just a few demographic questions and you will be done.

38. Are you taking courses or enrolled as…
    - A full-time student in a graduate degree program
    - A part-time student in a graduate degree program
    - Not enrolled in a graduate degree program, but taking courses
    - Recently completed a graduate degree
    - Other (please specify)

39. What degree are you working toward?
    - No specific degree
    - Master's degree (e.g., MS, MA, MBA)
    - Doctorate (e.g., PhD, DSc, EdD)
    - Other professional degree (e.g., JD, LLB, MD, DDS, DVM) (please specify)
    - Other (Please specify)

40. What is the primary field of study for this degree?
    - Field (Drop-down with broad NSF fields)

41. Which of the following best describes your relationship status?
    - Never Married
    - Married
    - Living in a marriage-like relationship
    - Widowed
    - Separated
    - Divorced

42. Do you have any children?
    - Yes, No, Prefer Not to Answer

If Yes,

43. How many children do you have?
    - #-Field

44. What is your race or origin? (Check one or more.)
    - American Indian or Alaska Native
    - Native Hawaiian or other Pacific Islander
    - Asian
    - Black or African American
    - Hispanic, Latino, or Spanish Origin
    - White
    - Not Sure

- Other

45. Would you describe yourself as belonging to a religion?
    - Yes, No, Prefer Not to Answer

If Yes,

46. What is your present religion?
    - Protestant
    - Roman Catholic
    - Mormon
    - Orthodox, such as Greek or Russian Orthodox
    - Jewish
    - Muslim
    - Buddhist
    - Hindu
    - Other (Please Specify)

47. How would you describe the economic status of the family you grew up in? (Please check one.)
    - Low Income
    - Lower-Middle Income
    - Middle Income
    - Upper-Middle Income
    - High Income

48. Which best describes your income last year (not including student loans)?
    - 0-$9,999
    - $10,000 - $19,999
    - $20,000 - $29,999
    - $30,000 - $39,000
    - $40,000 or more

49. What is your year of birth? (Please check one)
    - Under 18 years
    - 18 to 20 years
    - 21 to 25 years
    - 26 to 40 years
    - 31 to 35 years
    - 36 to 40 years
    - 41 to 45 years
    - 46 to 50 years
    - Age 51 or older

Section 7—Thank You

Thank you for your time and participation!

You have completed the survey and your answers will be submitted once you click SUBMIT.

If you would like to learn more about the results of this survey, please email Hillary Alberta (halberta@gatech.edu

$5K—No Risk, General Risk and Specific Risk

Figure D1. Mock advertisement with $5,000 compensation and no risk disclosure.

Figure D2. Mock advertisement with $5,000 compensation and general risk disclosure.

Figure D3. Mock advertisement with $5,000 compensation and specific risk disclosure.

$10,000—No Risk, General Risk, Specific Risk

Figure D4. Mock advertisement with $10,000 compensation and no risk disclosure.

We're looking for women between the ages of 21 and 35 who would like to donate their eggs and help an infertile couple achieve their dream of having a family! All races and ethnicities are welcome to donate!

The benefits of donating include:

-Receive $10,000 in compensation for your donation

-Higher compensation for additional donations

-Donate when it works best for your busy schedule

-Give someone the gift of life!

-All donors remain anonymous

There are risks associated with egg donation. Please consult your doctor.

Eggtastic Fertility Solutions

For more information about becoming an egg donor with Eggtastic Fertility Solutions call 1-800-555-EGGS or visit our website at www.eggtastic.com.

Eggtastic Fertility Solutions
Atlanta, Georgia
www.eggtastic.com

Figure D5. Mock advertisement with $10,000 compensation and general risk disclosure.

We're looking for women between the ages of 21 and 35 who would like to donate their eggs and help an infertile couple achieve their dream of having a family! All races and ethnicities are welcome to donate!

The benefits of donating include:

-Receive $10,000 in compensation for your donation

-Higher compensation for additional donations

-Donate when it works best for your busy schedule

-Give someone the gift of life!

-All donors remain anonymous

There are risks associated with egg donation, to include: bleeding, infection, and ovarian hyperstimulation syndrome. Egg donation may also be associated with an increased risk of developing cancer. Please consult your doctor.

Eggtastic Fertility Solutions

For more information about becoming an egg donor with Eggtastic Fertility Solutions call 1-800-555-EGGS or visit our website at www.eggtastic.com.

Eggtastic Fertility Solutions
Atlanta, Georgia
www.eggtastic.com

Figure D6. Mock advertisement with $10,000 compensation and specific risk disclosure.

APPENDIX E: INVITATION AND REMINDER EMAILS

Invitation Email:

Dear [Recipient First Name],

I am writing to ask for your valuable participation in the Survey on Health Information and Egg Donor Recruitment. This survey is a research study of health communication and the recruitment of women for egg donation and is being conducted by Hillary Alberta-Sherer, a PhD candidate at Georgia Tech and supervised by Aaron Levine. The survey aims to advance our understanding of how women react to the health information presented in egg donor recruitment advertisements. The survey should take no more than 5 minutes to complete.

As a thank you for participating, everyone who completes the survey will be entered into a drawing for one of four $25 Starbucks gift cards. Data from the survey will be analyzed and reported in aggregate and your identity will remain confidential.

To complete the survey, please go to: [Direct Link Here] or copy the following URL into your web browser: [URL].

Please feel free to contact me if you have any questions about the survey.

Thank you very much for your participation.

Hillary B. Alberta-Sherer, MSPP
PhD Candidate | School of Public Policy | Georgia Tech
halberta3@gatech.edu

Notes:
If you prefer not to complete the survey and not to receive an e-mail reminder about it, you can opt out by clicking here: [Unsubscribe link here]

If you would like to enter the drawing for the Starbucks gift cards without completing the survey, please email this request to Hillary Alberta at the address above.

Reminder Email

Subject: Survey of Female Graduate Students and Health Communication

Dear [Recipient First Name],

Last week I invited you to participate in the Survey on Health Information and Egg Donor Recruitment. I am writing today to ask again for your valuable participation. As a reminder, this survey being conducted by Hillary Alberta-Sherer, a PhD candidate at

Georgia Tech, aims to advance our understanding of how women react to the health information presented in egg donor recruitment advertisements.

As a thank you for participating, everyone who completes the survey will be entered into a drawing for one of four $25 Starbucks gift cards. Data from the survey will be analyzed and reported in aggregate and your identity will remain confidential.

To complete the approximately 5 minute survey, please go to: [Direct Link here]
If you have already started the survey, you will be taken to where you last left off.

Please feel free to contact me if you have any questions about the survey.

Thank you very much for your participation.

Hillary B. Alberta-Sherer, MSPP
PhD Candidate | School of Public Policy | Georgia Tech
halberta3@gatech.edu

Notes:
If you prefer not to complete the survey and not receive an e-mail reminder about it, you can opt out by clicking here: [Unsubscribe link here]

If you would like to enter the drawing for the Starbucks gift cards without completing the survey, please email this request to Hillary Alberta at the address above.

APPENDIX F: INITIAL RESPONSE ANALYSIS SUPPLEMENTAL FIGURES AND TABLES

Full Scales for *Likelihood to Contact Doctor*

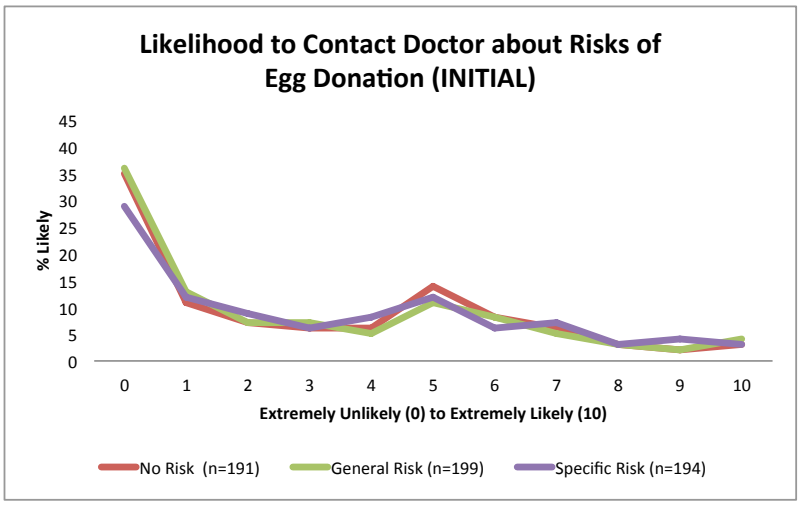

Figure F1. Full Scale for *Contact Doctor about Risks of Egg Donation* with respect to risk disclosure (Initial Analysis).

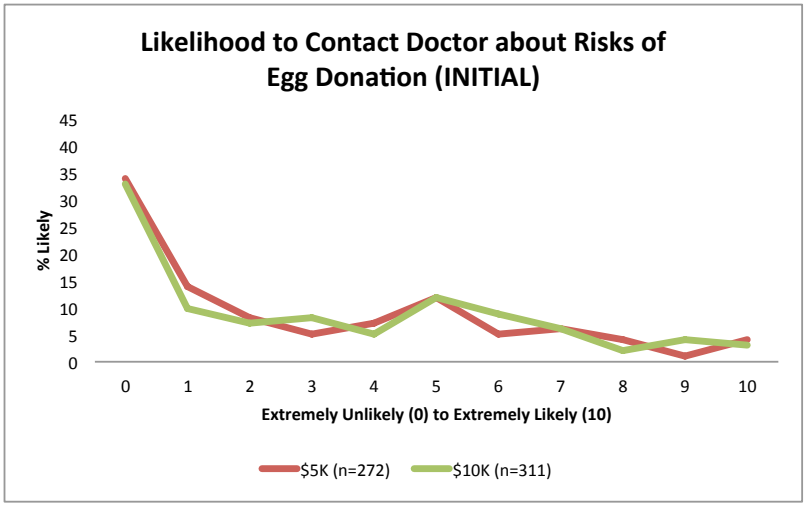

Figure F2. Full Scale for *Contact Doctor about Risks of Egg Donation* with respect to monetary compensation (Initial Analysis).

Full Scales for *Contact Company*

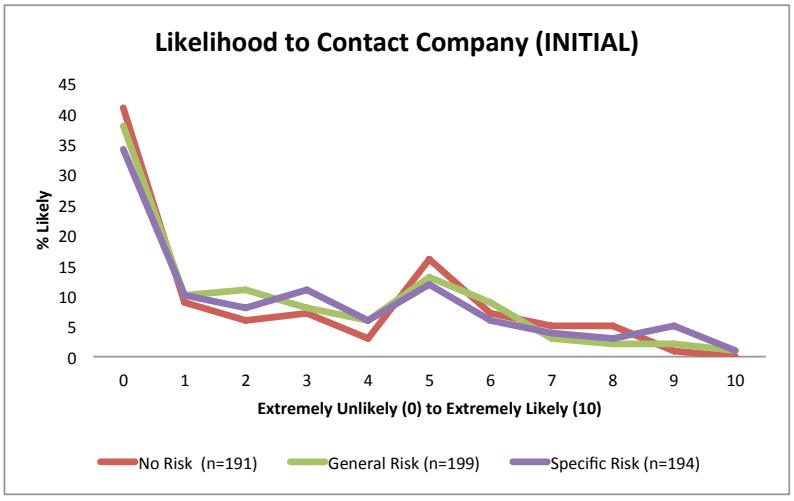

Figure F3. Full Scale for *Contact Company* with respect to risk disclosure (Initial Analysis).

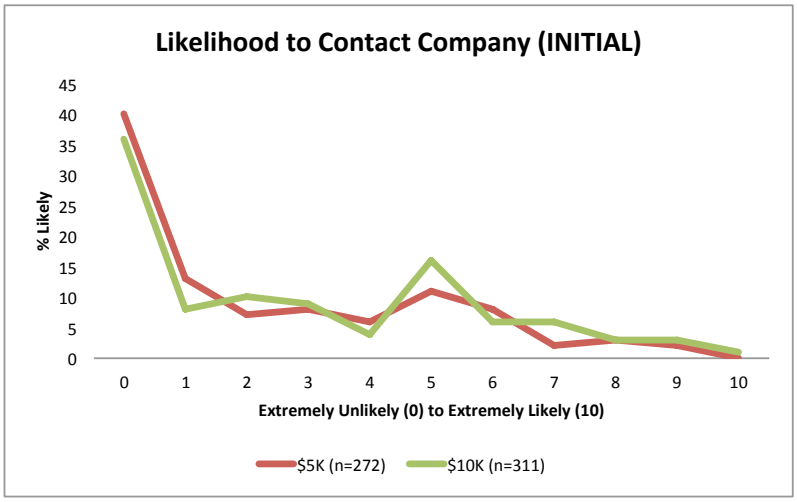

Figure F4. Full Scale for *Contact Company* with respect to monetary compensation (Initial Analysis).

APPENDIX G: HYPOTHETICAL RESPONSE ANALYSIS
SUPPLIMENTAL FIGURES AND TABLES

Full Scales for *Likelihood to Contact Doctor*

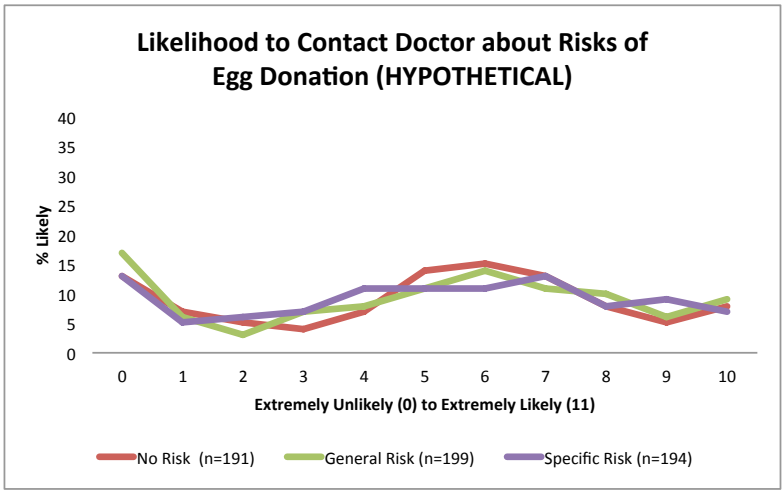

Figure G1. Full Scale for *Contact Doctor about Risks of Egg Donation* with respect to risk disclosure (Hypothetical Analysis).

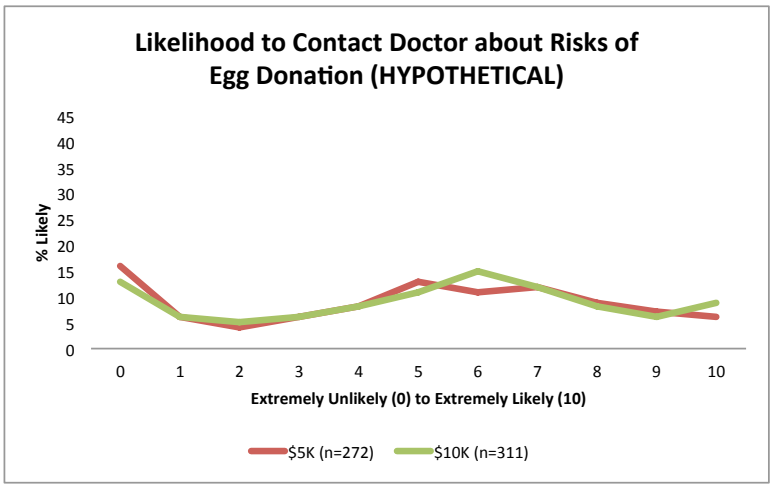

Figure G2. Full Scale for *Contact Doctor about Risks of Egg Donation* with respect to monetary compensation (Hypothetical Analysis).

Full Scales for *Contact Company*

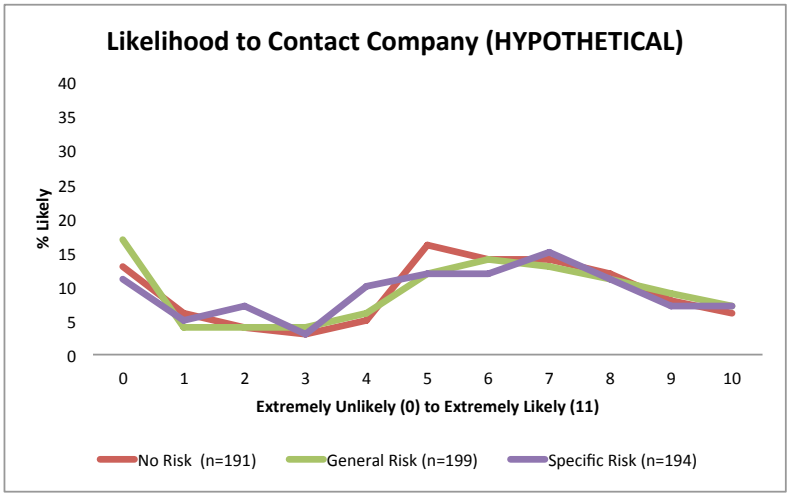

Figure G3. Full Scale for *Contact Company* with respect to risk disclosure (Hypothetical Analysis).

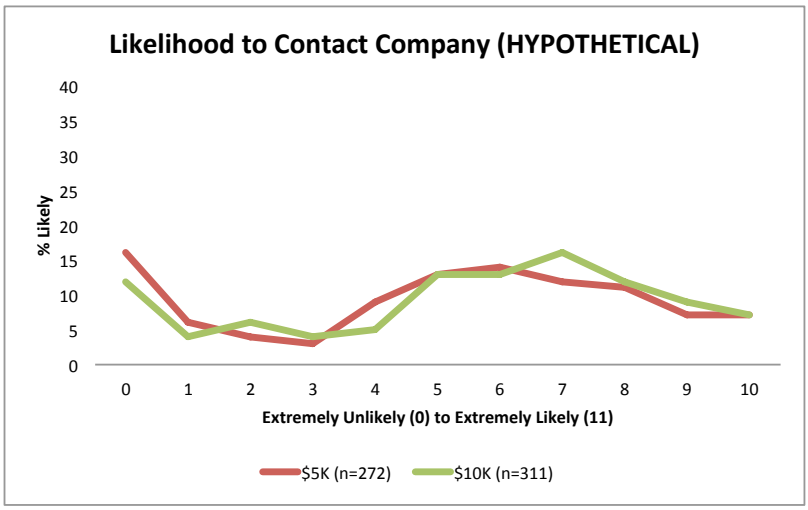

Figure G4. Full Scale for *Contact Company* with respect to monetary compensation (Hypothetical Analysis).

Likelihood to Contact Doctor about the Risks and Demographics (Age and Race/Ethnicity)

Table G1. Likelihood to Contact Doctor about Risks by Type of Risk Disclosure and Age

Age:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Under 18-25 years old	53%	76	44%	90	50%	76	47%	166
26-30 years old	45%	76	53%	72	45%	74	49%	146
31-35 years old	54%	28	57%	21	34%	29	44%	50
36-40 years old	50%	6	50%	10	63%	8	56%	18

Table G2. Likelihood to Contact Doctor about Risks by Type of Risk Disclosure and Race

Race:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Asian	58%	26	43%	23	43%	28	43%	51
Black	25%	16	43%	14	53%	15	49%	29
Hispanic	43%	7	40%	10	53%	17	48%	27
Other Minority	67%	6	50%	8	33%	9	41%	17
White	52%	145	50%	163	48%	143	49%	306

Likelihood to Contact Company and Demographics (Age and Race/Ethnicity)

Table G3. Likelihood to Contact Company by Type of Risk Disclosure and Age

Age:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Under 18-25 years old	53%	76	51%	90	55%	77	53%	167
26-30 years old	55%	77	56%	72	47%	74	51%	146
31-35 years old	43%	28	67%	21	52%	29	58%	50
36-40 years old	50%	6	50%	10	88%	8	67%	18

Table G4. Likelihood to Contact Company by Type of Risk Disclosure and Race

Race:	*No Risk*		*General Risk*		*Specific Risk*		*Any Risk*	
	% Likely	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*	*% Likely*	*#Respon.*
Asian	46%	26	30%	23	39%	28	35%	51
Black	50%	16	50%	14	47%	15	48%	29
Hispanic	29%	7	40%	10	65%	17	56%	27
Other Minority	50%	6	50%	8	33%	9	41%	17
White	54%	146	56%	163	54%	143	55%	307

Likelihood to Contact Doctor about the Risks and Demographics (Hypothetical Compared to Initial Analysis)

Table G5. Percent Differences in Likelihood to Contact Doctor by Age (Hypothetical-Initial)

Likelihood to Contact Doctor about Risks	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
Under 18-25 years old	+27%**	+18%**	+24%***	+21%***
26 to 30 years old	+27%**	+32%***	+18%	+25%***
31 to 35 years old	+33%**	+43%***	+20%	+30%***
36 to 40 years old	+33%	+50%**	+50%	+50%***

**Significant (P<0.05) ***Significant (P<0.01)

Table G6. Percent Differences in Likelihood to Contact Doctor by Race (Hypothetical-Initial)

Likelihood to Contact Doctor about Risks	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
Asian	+43%***	+25%	+22%	+23%**
Black	0%	+7%	+33%	+21%
Hispanic	+27%	+40%	+6%	+18%
Other Minority	+34%	+25%	+11%	+17%
White	+30%***	+28%***	+25%***	+27%***

**Significant (P<0.05) ***Significant (P<0.01)

Table G7. Percent Differences in Likelihood to Contact Doctor by Family Economic Status (Hypothetical-Initial)

Likelihood to Contact Doctor about Risks	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
$0-$19,999/year	+28%***	+27%***	+24%**	+25%***
$20,000-$29,999/year	+27%***	+28%***	+17%	+23%***
$30,000-$40,000+/year	+30%***	+29%**	+33%***	+32%***

**Significant (P<0.05) ***Significant (P<0.01)

Table G8. Percent Differences in Likelihood to Contact Doctor by Individual Economic Status (Hypothetical-Initial)

Likelihood to Contact Doctor about Risks	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
$0-$19,999/year	+28%***	+27%***	+24%**	+25%***
$20,000-$29,999/year	+27%***	+28%***	+17%	+23%***
$30,000-$40,000+/year	+30%***	+29%**	+33%***	+32%***

**Significant (P<0.05) ***Significant (P<0.01)

Likelihood to Contact Company and Demographics (Hypothetical Compared to Initial Analysis)

Table G9. Percent Differences in Likelihood to Contact Company by Age (Hypothetical-Initial)

Likelihood to Contact Company	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
Under 18-25 years old	+33%***	+34%***	+37%***	+36%***
26 to 30 years old	+37%***	+38%***	+23%***	+30%***
31 to 35 years old	+22%	+57%***	+45%***	+50%***
36 to 40 years old	+50%	+50%**	+77%***	+56%***

**Significant (P<0.05) ***Significant (P<0.01)

Table G10. Percent Differences in Likelihood to Contact Company by Race (Hypothetical-Initial)

Likelihood to Contact Company	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
Asian	+42%***	+17%	+21%	+19%
Black	+37%	+29%	+34%	+31%**
Hispanic	+15%	+40%	+18%	+26%
Other Minority	+17%	+37%	-23%	+6%
White	+33%***	+40%***	+37%***	+39%***

**Significant (P<0.05) ***Significant (P<0.01)

Table G11. Percent Differences in Likelihood to Company by Family Economic Status (Hypothetical-Initial)

Likelihood to Contact Company	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
$0-$19,999/year	+36%***	+36%***	+35%***	+36%***
$20,000-$29,999/year	+36%***	+43%***	+26%***	+35%***
$30,000-$40,000+/year	+28%***	+35%***	+47%***	+42%***

**Significant (P<0.05) ***Significant (P<0.01)

Table G12. Percent Differences in Likelihood to Company by Individual Economic Status (Hypothetical-Initial)

Likelihood to Contact Company	*No Risk*	*General Risk*	*Specific Risk*	*Any Risk*
$0-$19,999/year	+36%***	+36%***	+35%***	+36%***
$20,000-$29,999/year	+36%***	+43%***	+26%***	+35%***
$30,000-$40,000+/year	+28%***	+35%***	+47%***	+42%***

**Significant (P<0.05) ***Significant (P<0.01)

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